

ANNUAL REPORT
OF THE
DIRECTOR OF THE MINT

TO THE
SECRETARY OF THE TREASURY

FOR THE

FISCAL YEAR ENDED JUNE 30, 1875.

NUMISMATIC & ARCHAEOLOGICAL
SOCIETY OF NEW YORK.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
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REPORT

OF

THE DIRECTOR OF THE MINT.

OFFICE DIRECTOR OF THE MINT,
Treasury Department, November 20, 1875.

SIR: In compliance with the provisions of the coinage act of 1873, I have the honor to submit the following report of the operations of the mints and assay-offices for the fiscal year ended June 30, 1875:

The amounts of gold and silver deposits and purchases, coins struck, and bars manufactured, were as follows:

DEPOSITS AND PURCHASES.

Gold deposits.....	\$43,152,584 50
Silver deposits and purchases.....	18,304,406 07
Total amount received and operated upon.....	61,456,990 57

Deducting re-deposits—bars made and issued by one institution and deposited at another—the deposits were:

Gold.....	\$38,556,293 90
Silver.....	16,070,626 54
Total	54,626,920 44

COINAGE.

	Pieces.	Value.
Gold.....	1,739,062	33,553,965 00
Silver.....	22,823,216	10,070,368 00
Minor	14,629,500	230,375 00
Total	39,191,778	43,854,708 00

BARS.

Fine gold	\$5,279,477 46	
Unparted gold	10,740,402 47	
		16,019,879 93
Fine silver.....	5,231,915 90	
Unparted silver.....	1,719,665 96	
Sterling	77,848 68	
		7,029,430 54

Total gold and silver

23,049,310 47

The distribution of the gold and silver bullion deposited and purchased, including redeposits, was as follows:

MINT, UNITED STATES, PHILADELPHIA.

Gold deposits	\$5,636,376 01
Silver deposits and purchases.....	4,168,412 22
Total	9,804,788 23

MINT, UNITED STATES, SAN FRANCISCO.

Gold deposits.....	26,335,100 52
Silver deposits and purchases.....	5,154,297 38
Total	31,489,397 90

MINT, UNITED STATES, CARSON.

Gold deposits.....	2,540,057 59
Silver deposits and purchases.....	3,030,910 73
Total	5,570,968 32

MINT, UNITED STATES, DENVER.

Gold deposits.....	909,011 02
Silver deposits.....	83,108 47
Total	992,119 49

UNITED STATES ASSAY OFFICE, NEW YORK.

Gold deposits.....	7,608,463 91
Silver deposits and purchases.....	5,866,783 21
Total	13,475,247 12

UNITED STATES ASSAY OFFICE, CHARLOTTE, N. C.

Gold deposits.....	6,562 12
Silver deposits.....	127 91
Total	6,690 03

UNITED STATES ASSAY OFFICE, BOISE, IDAHO.

Gold deposits.....	117,013 33
Silver deposits.....	766 15
Total	117,779 48

The coinage at the different mints during the fiscal year was as follows:

Description.	Pieces.	Value.
MINT UNITED STATES, PHILADELPHIA.		
Gold coinage.....	278,258	\$5,162,870
Silver coinage, (trade-dollars).....	476,800	476,800
Silver coinage, (subsidiary coin).....	11,010,400	3,168,710
Minor coinage.....	14,629,500	239,375
Total	26,394,958	9,038,755
MINT UNITED STATES, SAN FRANCISCO.		
Gold coinage.....	1,330,000	26,200,000
Silver coinage, (trade-dollars).....	3,379,000	3,379,000
Silver coinage, (subsidiary coin).....	4,895,000	948,000
Total	9,604,000	30,527,000
MINT UNITED STATES, CARSON.		
Gold coinage.....	130,804	2,191,095
Silver coinage, (trade-dollars).....	1,841,700	1,841,700
Silver coinage, (subsidiary coin).....	1,920,316	256,158
Total	3,192,820	4,288,953
Total coinage.....	39,191,778	43,854,708

The bars made and issued at the mints and assay offices were as follows:

MINT, UNITED STATES, PHILADELPHIA.

Fine gold bars.....	\$40,713 92
Fine silver bars.....	278,072 74
Total.....	318,786 66

MINT, UNITED STATES, SAN FRANCISCO.

Unparted gold bars.....	9,624,439 39
Unparted silver bars	836,841 73
Total.....	10,461,281 12

MINT, UNITED STATES, CARSON.

Unparted gold bars	83,376 61
Fine silver bars	344,728 10
Unparted silver bars	798,821 70
Total.....	1,226,926 41

MINT, UNITED STATES, DENVER.

Unparted gold bars.....	909,011 02
Unparted silver bars	83,108 47
Total.....	992,119 49

UNITED STATES ASSAY OFFICE, NEW YORK.

Fine gold bars	5,238,763 54
Fine silver bars	4,609,115 06
Sterling bars.....	77,848 68
Total.....	9,925,727 28

UNITED STATES ASSAY OFFICE, CHARLOTTE, N. C.

Unparted gold bars.....	6,562 12
Unparted silver bars	127 91
Total.....	6,690 03

UNITED STATES ASSAY OFFICE, BOISE, IDAHO.

Unparted gold bars.....	117,013 33
Unparted silver bars	766 15
Total.....	117,779 48

Compared with the previous year, there was an increase of \$3,182-254.76 in the amount of silver operated upon—\$4,086,766.70 in silver coinage and \$181,631.36 in silver bars.

EARNINGS AND EXPENDITURES.

	Mints.					Assay offices.			Total.
	Philadelphia.	San Francisco.	Carson.	Denver.	New Orleans.	New York.	Charlotte.	Boise.	
EARNINGS.									
Coinage charge.....	\$7,437 47	\$51,643 76	\$14,423 47	.....	.....	.....	.....	.....	\$73,504 70
Parting and other charges.....	4,562 94	51,035 34	50,067 41	\$1,240 08	.....	.....	.....	.....	188,720 68
Gain by coinage of subsidiary silver coin.....	218,745 13	54,249 70	22,332 17	.....	.....	.....	.....	.....	295,327 00
Minor coinage profits.....	140,778 81	.....	.....	.....	.....	.....	.....	.....	140,778 81
Sale of by-products and old material.....	381 22	.....	18,043 04	.....	.....	20,515 01	.....	.....	38,939 27
Residue fines and sweepings.....	1,893 64	2,019 43	1,137 94	610 45	.....	.....	264 25	.....	5,925 71
Medal profits.....	5,717 16	.....	.....	.....	.....	.....	.....	.....	5,717 16
Surplus bullion, (melter and refiner).....	.....	371 64	.....	.....	.....	*34,660 90	.....	.....	35,032 54
Assay of ores.....	156 25	.....	.....	.....	.....	305 00	.....	.....	461 25
Total.....	379,672 62	159,319 87	106,004 03	1,850 53	.....	136,761 26	530 14	268 67	784,407 12
EXPENDITURES.									
Regular ordinary account.									
Salaries.....	37,300 00	25,604 37	24,235 57	10,400 00	\$3,319 33	35,650 00	3,300 00	6,800 00	146,609 27
Wages.....	137,156 54	277,835 09	101,369 07	15,385 00	2,380 00	72,556 89	315 50	2,534 92	609,533 01
Contingent.....	69,562 13	77,983 37	98,344 41	4,426 19	4,023 01	60,199 07	725 04	3,137 42	318,400 64
Freight.....	15,230 69	.....	.....	.....	.....	.....	.....	.....	15,230 69
Minor coinage account.									
Wages.....	92,062 26	.....	.....	.....	.....	.....	.....	.....	92,062 26
Incidentals.....	13,252 12	.....	.....	.....	.....	.....	.....	.....	13,252 12
Freight.....	10,851 98	.....	.....	.....	.....	.....	.....	.....	10,851 98
Wastage.....	7,966 79	.....	.....	.....	.....	.....	.....	.....	7,966 79
Difference between assay value of sweeps sold and amount realized.....	2,707 09	3,344 42	3,553 80	.....	.....	.....	.....	.....	13,264 02
Gold and silver wastage.....	3,504 34	2,482 44	4,513 44	.....	.....	.....	.....	.....	10,500 22
Total.....	389,593 94	387,249 69	232,016 29	30,211 19	9,722 34	172,064 67	4,340 54	12,472 34	1,237,671 00

* Results chiefly from partible metal in deposits, not containing a sufficient percentage to defray the expense of parting them individually for the depositors, and which accrues to the Government by parting in the aggregate.

Equipment of a refinery in the mint at San Francisco, enlargement of the melting and refining facilities in the United States assay office at New York, and increased coining facilities at the mints in Philadelphia and Carson.

The original plans for the new mint edifice at San Francisco, and according to which it was constructed, contemplated the use of the nitric acid process for refining. When the building had been completed and occupied for coining operations, it was thought that the space allotted for the refining was sufficient for the employment of the sulphuric-acid method, but after the plans and drawings for the same had been prepared, it was found that a sufficient capacity could not be obtained, or the iron portions of the rooms secured against serious injury from sulphurous acid gas generated and emitted during the refining operation. After an exhaustive examination of the subject, it was determined, with your approval, to equip a nitric-acid refinery, with certain modifications and improvements, having for their object increased efficiency and reduced cost of separating (usually termed refining) of the precious metals.

The arranging of the plan of the refinery and its equipment was intrusted to Robert E. Rogers, professor of chemistry in the University of Pennsylvania, whose eminent qualifications as a chemist and metallurgist, rendered him peculiarly qualified for this service, and who performed the duty assigned him in an entirely satisfactory manner. The refinery has been in successful operation since the 26th day of August last, and with much advantage to the public interests.

The business of the assay office in New York has increased to such an extent during the last two years, as to render necessary the occupancy of the rooms in the Wall street building, which have until recently been rented to banking firms. These rooms have been altered, repaired, and otherwise put into condition for the purposes to which they are hereafter to be devoted, and the capacity for melting and refining bullion has thereby been doubled, and the office is better adapted in many respects for the convenient transaction of its business.

A careful examination by the Supervising Architect of the Treasury, of the rear building, in which refining by sulphuric acid has been carried on for a number of years, having developed the fact that the iron beams were corroded by sulphurous acid gas to such an extent as to weaken them and render additional supports necessary, the latter have been provided and put in place by the officer referred to.

The duplication of the coining machinery at the mint in Carson, for which an appropriation was made two years ago, has been completed and the coining capacity doubled. At the mint in Philadelphia, the annealing capacity having been found too limited, two additional furnaces have been erected, and the coining capacity thereby increased. With these improvements the mints and assay offices are in a very efficient condition.

ADDITIONAL VAULT FACILITIES REQUIRED.

The experience of the last year has demonstrated the insufficiency of the facilities of the Treasury and its offices for the convenient and safe storage of coin, particularly in the Western States, and more silver coin has of late been retained in the custody of the mints than could be properly cared for.

In view of this fact and the increased amount of coin which will have

to be stored in the Treasury offices in different parts of the country before specie payments shall have been resumed, it is suggested that the provision of additional vaults should be undertaken at an early day.

PREPARATIONS FOR COINAGE AT NEW ORLEANS.

Under the provisions of the act of Congress approved June 20, 1874, the mint at New Orleans has been prepared for re-opening as far as the limited appropriations therefor would permit, and it would now be practicable to conduct thereat the operations of melting, assaying, and stamping of bullion; but the appropriations having been made for the purpose of re-opening the establishment, "to be conducted hereafter as a mint subject to the provisions and restrictions of the coinage act of 1873," do not authorize it to be conducted as an assay office.

Estimates for the appropriations necessary to carry into effect the provisions of law above referred to will be submitted for your consideration and such action as you may deem proper.

THE TRADE-DOLLAR.

In the latter part of the year 1872, it became apparent that the change in the German monetary system, and other causes affecting the demand and supply, would produce a serious decline in the value of silver and injuriously affect our silver mining interests.

To provide a market for the silver mined in the western portion of our country, a coin of a standard likely to make it acceptable in China was authorized early in the following year, 1873. About two years afterward, January, 1875, a law looking to the substitution of silver for the paper fractional currency was enacted. Upon a superficial examination the trade-dollar may be supposed to interfere with the plan of substituting silver for the fractional currency; such, however, is not the case, its coinage not having the least effect on the general market-price of silver. The real effect is to make something of a local market at San Francisco, and if our annual production of that metal was not more than the mints could coin, the silver production of the Pacific coast would command slightly better rates; but the fact is, the coining-capacity of the mints for silver coins of less denomination than the dollar is not equal to more than half the production, and two years' yield of the mines will, it is probable, furnish sufficient silver to manufacture all the fractional coins that can be advantageously used in the country.

After the redemption of the fractional notes, silver coins, with the exception of the trade-dollar, can only be issued under the coinage laws in exchange at par for gold coins; and as this limitation will be a barrier to their excessive coinage, the demand for bullion for that purpose must, after two or three years, be quite small. The coining rate of silver in trade-dollars is $\$1.14\frac{28}{100}$ per standard ounce. Deducting the charge of $1\frac{1}{4}$ per cent. on the nominal value (equal to $1\frac{42}{100}$ cents per ounce) gives a return to the depositor in that coin of nearly 113 cents per ounce. The fact that the average price of silver purchased for the

NOTE.—\$1,000,000 in gold coin weigh 53,750 troy ounces, or 3,685.71 avoirdupois pounds; equal to, at 2,000 pounds to the ton, 1 ton 16 cwt. 86 pounds.
 \$1,000,000 in trade-dollars weigh 875,000 troy ounces, or 60,000 avoirdupois pounds; equal to, at 2,000 pounds to the ton, 30 tons.
 \$1,000,000 in subsidiary silver coin, (half and quarter dollars, 20-cent pieces, and dimes,) weigh 803,750 troy ounces, or 55,114.28 avoirdupois pounds; equal to, at 2,000 pounds to the ton, 27 tons 11 cwt. 14 pounds.

fractional coins has been only $111\frac{4}{10}$ cents per standard ounce, proves that the trade-dollar coinage has not influenced the price to any perceptible extent.

‡ The Comstock bullion, which has San Francisco for its natural market, consists, on the average, of twenty-one parts by weight of silver to one of gold. The two metals must be separated or parted before either can be brought to the legal standard for coinage. The most economical proportion for the parting operation being two parts by weight of silver to one of gold, the Comstock bullion admits of gold containing a small percentage of silver, being added and refined with but trifling expense compared with that which would be incurred if fine silver had to be purchased and added to such gold to bring it to the proper proportions for refining.

This class of bullion is, for this reason, a favorite in the London market, where gold containing a small percentage of silver constitutes principally the partible bullion received, and a higher rate is paid for it there than for fine silver.

Formerly this unparted bullion was nearly all shipped direct from the mines to London, but the coinage of the trade-dollar and repeal of the charge for coining gold have caused it, during the present year, to be refined and minted in the United States.

Ultimately China must have a national coinage of silver, and in the mean time a more extensive use of the silver coins of other countries will be found advantageous not only to the Chinese, but to foreign residents at the different ports. The American trade-dollar has been well received in that empire, and if authority were given to coin at our western mints five, ten, twenty, and fifty-cent pieces of the *same standard*, they would no doubt find a ready market at the different commercial ports, and gradually work their way into the interior of the empire.

If this trade coinage should incidentally afford protection to our mining interests, which have already been injuriously affected by the fall in the value of silver, it could hardly be regarded otherwise than as sound national policy.

PURCHASES AND COINAGE OF SILVER.

The first section of the act of January 14, 1875, for the resumption of specie payments, authorized and required the Secretary of the Treasury, to cause to be prepared as rapidly as possible, silver coins for the redemption of the fractional currency.

The purchases of silver-bullion for this purpose from January 14 to October 31, 1875, have amounted to \$9,183,417.37, at an average price, with the refining charge added for the Doré bullion, of $111\frac{4}{10}$ cents per ounce standard. The average price of silver in London during the same period has been 56.99 pence per ounce, British standard, which, reduced to United States standard and money, gives $112\frac{4}{10}$ cents.

The following statement exhibits the purchases made to October 31, 1875, and a comparison of rates paid with London quotations:

Purchased by the United States.			London rates.				Difference in favor of the United States.	Percentage of difference.
Date.	Amount.	Rate paid per ounce standard.	Silver containing 5 grains gold.	Fine silver.	Equivalent in U. S. coin per standard ounce.			
					Silver containing 5 grains gold.	Fine silver.		
1875.	<i>Dolls. Cts.</i>	<i>d. c. m.</i>	<i>Pence.</i>	<i>Pence.</i>	<i>d. c. m.</i>	<i>d. c. m.</i>	<i>d. c. m.</i>	
Jan. to Sept. 18	1,310,718 31	1 11 3	.....	56 9-16	.....	1 11 5	0 0 2	
Feb. 13.....	490,536 12	1 13 1	.....	57½	.....	1 13 4	0 0 3	
Feb. 20.....	82,720 21	1 12 5	.....	57½	.....	1 13 4	0 0 9	
Feb. 25.....	927,500 00	1 12 9	.....	57½	.....	1 13 4	0 0 5	
Apr. 6.....	624,999 00	1 12 5	.....	57 3-16	.....	1 12 8	0 0 3	
Apr. 23.....	426,921 13	1 13 8	.....	57½	.....	1 13 9	0 0 1	
May 28.....	248,000 00	1 11 6	.....	56½	.....	1 11 7	0 0 1	
June 7.....	493,828 17	1 08 9	.....	55½	.....	1 09 5	0 0 6	
Aug. 30.....	2,036 17	1 09 1	.....	56½	.....	1 11 9	0 2 8	
Fine silver	4,607,259 11	*1 11 7	.....	*56. 9	.....	*1 12 3	*0 0 6	½ of 1 per ct.
Mar. 15.....	1,024,599 56	1 13 8	57½	.....	1 13 9	.....	0 0 1	
March 17.....	191,106 78	1 12 7	57 15-16	.....	1 14 2	.....	0 1 5	
Apr. 2.....	204,497 81	1 12 7	57 13-16	.....	1 14 0	.....	0 1 3	
June 1.....	1,437,126 34	1 09 3	56 15-16	.....	1 12 3	.....	0 3 0	
June 8.....	1,425,604 38	1 07 1	56½	.....	1 10 7	.....	0 3 6	
July 2.....	499,928 78	1 08 4	56	.....	1 10 4	.....	0 2 0	
Aug. 21.....	489,237 96	1 09 1	56 13-16	.....	1 12 1	.....	0 3 0	
Aug. 26.....	386,707 44	1 09 1	57 1-16	.....	1 12 5	.....	0 3 4	
Aug. 28.....	1,056,868 80	1 09 1	57 1-16	.....	1 12 5	.....	0 3 4	
Aug. 30.....	642,228 54	1 08 9	57 1-16	.....	1 12 5	.....	0 3 6	
Aug. 31.....	611,675 31	1 08 9	57½	.....	1 12 7	.....	0 3 8	
Sept. 2.....	81,213 87	1 08 0	57 3-16	.....	1 12 8	.....	0 4 8	
Doré†.....	8,050,795 57	*1 09 7	*57.06	.....	*1 12 5	.....	*0 2 7	2½ per cent.
Total.....	12,658,054 68							

* Average.

† Deducting gold contained in Doré bullion, \$3,474,637.31, the amount of silver purchased up to October 31, 1875, has been \$9,183,417.37.

NOTE.—The Doré bullion was refined or parted on account of the United States at an average cost of 1½ cents per ounce.

The purchases were commenced soon after the passage of the act, and continued from time to time, as was required, for the economical working of the mints; the quantity proposed to be purchased, and limit of price to be paid having been in each case first submitted to the Secretary, and his approval obtained. In making these purchases, the condition of the bullion and exchange markets was carefully inquired into, the London rates ascertained, and the respective superintendents instructed to purchase at the lowest market rate, and not above the limit authorized.

The coining rate of the fractional silver coins being $124\frac{4168}{10000}$ cents per standard ounce, and the average cost of the bullion $111\frac{4}{10}$ cents, the seignorage or gain on its coinage will be 13 cents per ounce, or about 12 per cent.

The fractional silver coin manufactured during the same period was as follows:

	No. of pieces.	Value.
Half-dollars	10,535,200	\$5,267,600
Quarter-dollars	4,260,200	1,065,050
Twenty cents	1,253,590	250,718
Dimes	12,375,400	1,237,540
Total	28,424,390	7,820,908

The coinage of these pieces for the month of November may be set down at \$680,000, and the amount in the Treasury and mints on the 31st

of January, 1875, at \$1,500,000; which amounts, added to the coinage from February 1 to October 31, 1875, inclusive, would give a total of about \$10,000,000.

The amount of silver coins exchanged at par for gold during the fiscal year was \$20,425.37; the difference between the cost of the silver coins and their nominal, or tale value, being a gain to the Treasury.

REDEMPTION OF FRACTIONAL PAPER-CURRENCY IN SILVER COINS.

The policy of the redemption of the fractional paper-currency in silver coin in advance of gold-resumption has been discussed to some extent, and various suggestions made as to the practicability of the scheme. So far as the measure was predicated upon an expected favorable condition of the silver-market, the result has thus far been satisfactory, and will no doubt continue to be so in the future; but the appreciation in the value of legal-tender notes (which is also necessary to insure a favorable result) has not taken place; on the contrary, the average value of the paper-currency has been lower since than it was at the time of the passage of the act, and this notwithstanding the fact that about \$9,000,000 in legal-tender notes have been withdrawn and canceled.

To state the causes of the increase of the gold premium, or decrease in the value of United States notes, would involve a review of the condition of the various industries of the country, its finances, our foreign indebtedness, and the state of the principal money-markets of Europe, which cannot be properly undertaken in this report. It may be stated, however, that some of the causes may be regarded as of a temporary character, and that certain contingencies connected with the money-market and gold-supply have tended to place the limited amount of coin in this country, other than the Treasury stock, almost entirely within the control of speculation, thereby rendering its price somewhat arbitrary.

This state of affairs was intensified by the recent financial disturbances on the Pacific coast, where gold constitutes the circulating-medium, and by the temporary interruption of the supply of bullion from the largest producing mines of the country, caused by the destruction by fire of the hoisting and other works of these mines.

A very gradual contraction of the legal-tender notes and a moderate revival of business will, it is probable, by the time the necessary stock of silver coin to commence the redemption can be prepared, reduce the gold-premium to such a point as will insure the success of the measure.

The depreciation of United States legal-tender notes, which commenced soon after their issue took place, caused the silver coins to be exported, and rendered the employment of a substitute necessary. The issue of fractional notes was undoubtedly preferable to the debasement of the silver coins, but their permanent use is neither desirable nor practicable. The annual issue being about \$36,000,000 on a circulation of from \$40,000,000 to \$45,000,000, shows the average life of these notes to be, say, fifteen months.

The estimates of the Treasury officers having charge of the business show the necessary expense of maintaining this currency, during the last fiscal year, to have been \$1,410,746. This does not include the expense attending the handling of the fractional notes at the different subtreasuries and depositories, all of which receive them for redemption, and which, if added to the expenses incurred at the Department, would probably show the total cost of maintaining the fractional currency to

be equal to about 5 per cent. on the annual issue, and corresponding with the interest on the amount of bonds which may have to be sold to procure, say, \$36,000,000 (gold value) in silver-bullion for coinage, and which would give silver coins of the nominal value of \$15,000,000.

Notwithstanding the expense incurred, and the care which has been exercised by the Government, to renovate and keep the fractional currency in good condition, it is well known that a large percentage of the notes in circulation, particularly in localities not convenient to banks, are deteriorated to an extent rendering them quite unfit for use. It has also been counterfeited to a much greater extent than coin, and the detection of the spurious notes is infinitely more difficult than counterfeit coins. The loss to the public from this source must ultimately be very considerable.

The "wastage," as the small percentage of these notes worn out or destroyed while in circulation may be properly termed, falls mostly upon a class of people the least able to bear it. It is no satisfaction to a man who suffers the loss of a tenth of his day's wages by receiving a 25-cent note which no one will accept from him in payment, to be told that it reduces to that extent the expenses of the issue of such money by the Government of the United States.

The expense of manufacturing the subsidiary silver coins is estimated by the mint officers at from $1\frac{1}{2}$ to 2 per cent., the rate being less when the mints are worked to their maximum capacity. The total expense attending the manufacture of the coinage of the last fiscal year (\$43,854,708) was \$889,370, or about 50 per cent. of the expense of maintaining the fractional currency. In this estimate the seigniorage realized on the silver and minor coinage (\$436,105.81) has not been considered as reducing the cost of coinage, the same being regarded as a gain to the Government, and not an earning by the mints.

The rule of the principal countries is to redeem in kind the subsidiary silver coins when worn to an extent rendering the inscriptions illegible. A long period, probably fifty years,* would elapse before any considerable portion of a new issue of silver coins would diminish in weight by abrasion to an extent sufficient to require their withdrawal. The advantage in this respect of silver coins over paper fractional currency is so great as not to admit of comparison. Moreover, their bullion-value, when presented for exchange for new pieces, would, of course, be the same, or nearly so, as when issued, less the loss by wear.

The seigniorage or gain to the Treasury on the subsidiary silver coins will be from 10 to 12 per cent., and more than sufficient to defray the necessary expenses of coining, distribution, and maintenance in good condition.

It is a well-settled principle that the "change" currency, in order to remain in circulation, must be inferior in intrinsic value to the standard coins. If of the same value, or convertible into such coins, it would, whenever the standard money became scarce, be presented for conversion at a rate that would withdraw it for a time from circulation, and thereby subject the public to great inconvenience.

The divisions of the dollar, or change-money, being constantly handled, are more rapidly worn than the larger denominations. Paper is, therefore, a very defective material for such money, and the expense of renovation being so great, the provision of law for the withdrawal of these

* The result of careful observation and experiments in this country shows the average diminution from natural abrasion of the whole body of silver currency, when in actual circulation, to be about 1 per cent. in twelve years; quarter-dollars and dimes showing a greater percentage than half-dollars.

notes and substitution of coin is undoubtedly judicious. Silver has been adopted for such a currency by the principal countries, the coins being stamped at a valuation sufficiently above their bullion-value to render them inexportable in the ordinary fluctuations of bullion and exchange.

NOTE.—The following memoranda are gathered from the laws and regulations of different countries as to the renovation and calling in of worn subsidiary coins.

Great Britain.

* * * “The silver coinage is issued through the medium of the Bank of England, who are able, as in the case of gold, to judge from the amount in their possession, and the demands made upon it, at what times and in what quantities fresh supplies will be required for circulation. As, however, silver is a token coinage representing more than the intrinsic value of the metal used in its manufacture, it is coined for the profit of the state, and not from metal brought in, as in the case of gold, by the public. Silver bullion for coinage is purchased with sums advanced to the master of the mint, from time to time, from the consolidated fund, by the treasury, under the ninth section of the coinage act.

“The advantage of making silver a token coinage has been shown in a former portion of this report, and it is evident that if under the existing law silver were coined on demand for persons bringing it to the mint, the profit on the transaction would hold out so great an inducement to the public to offer it for coinage as to lead in a short time to an inordinate amount of coinage, and to the consequent depreciation of that part of the currency. This profit, then, levied as a seigniorage with the object already mentioned, accrues as of right to the state; but, on the other hand, it becomes equally the duty of the state to withdraw from circulation, at its own expense, all silver coins which may become worn and unfit for further use. This withdrawal is effected through the Bank of England, who undertakes the ‘garbling’ or sorting shillings and sixpences, and of returning the worn pieces periodically to the mint. The worn coin is received by the mint at its nominal value, and a vote of £15,000 a year is annually taken in the mint-estimates for the loss on its recoinage.

“So far as England is concerned this arrangement insures a constant supply of good silver coin, and the withdrawal of coins which have become unfit for circulation. * * *

“There is no least current weight ‘for silver coins.’ As silver is a token coinage, the withdrawal of silver coin is undertaken by the state.” * * * —*British Mint Report*, 1870.

Monetary treaty concluded December 23, 1865, between France, Belgium, Italy, and Switzerland.

* * * “The small silver coins must be withdrawn from circulation as soon as they have lost by abrasion 5 per cent. below the legal allowance. The pieces are to be recoined by the government issuing them, when they shall have been reduced by usage 5 per cent. below the minimum, or when their stamp shall have been effaced.” * * *

German empire.

* * * “National silver, nickel, and copper coins which, by long circulation or use, have lost considerably in weight or imprint, will be received in national and local depositories, but must be withdrawn at the expense of the empire.” * * * —*Mint law of July 9, 1873.*

Monetary convention between the King of Norway and Sweden and the King of Denmark, May 27, 1873.

“ART. 10.— * * * Subsidiary coin ceases to be legal tender of payment, relative to the state funds, when so worn as to be no longer capable of identification in so far as regards the country by which it was issued, but relative to all other parties when the inscription shall have become disfigured, or when it shall have been rendered indistinct by abrasion.

“All coin having ceased to be deemed legal tender of payment relative to private funds and parties, shall be withheld from circulation after having been paid into any of the state funds. The same rule applies to silver coin which shall have been reduced over 4 per cent. below its standard weight.” * * *

Monetary system of the Netherlands.

* * * “6, 7. There is no law requiring the withdrawal from circulation coin whose value is diminished by wear. However, the accounting-clerks are authorized, by a decree of the minister of finance, to reserve coins which have been returned in so defaced a condition that they can no longer serve as a circulating medium.

“These coins are replaced by new ones at the expense of the state.” * * *

INCREASE IN THE LEGAL-TENDER OF SILVER COINS SUGGESTED.

The subsidiary silver coins and the trade-dollar are by law a legal tender to the extent of five dollars. The propriety of increasing the amount to ten dollars is suggested for the consideration of the Secretary of the Treasury.

THE COURSE OF GOLD AND SILVER.

The principal money-markets of the world have been occasionally disturbed during the last three years, and the margin of the exchanges has been such as to afford a wide field for speculation. In seeking for the causes of these disturbances, it would appear, at first glance, that the supply of gold is unequal to the legitimate demands of the rapidly-increasing commerce of the world. A careful examination of the subject, however, will show that the monetary troubles have not been caused by insufficient supplies of gold, but by its having been withheld in large sums from circulation, and the diminished use of silver as money. It will be of some interest to note the events and circumstances which have caused this abnormal state of affairs.

In 1871, provision was made by law for a new money-system in the German empire, the principal features of which were the establishment of the exclusive gold standard, the demonetization of silver, and the issue of national coins, involving, as a necessary consequence, the withdrawal of all gold and silver coins then in circulation or held as treasury and bank reserves.

The amount of silver coin in the empire, at the time of the enactment of the new monetary-law, was estimated by the best authorities at about \$350,000,000. It was expected that two-thirds of this amount would be exported to neighboring countries, and the balance converted into subsidiary coin.

The natural markets for this surplus were the Netherlands and those countries having a double standard, for the reason that silver has there a fixed rate to gold in the legal-tender coins. In proportion to the fall in the price of silver which immediately commenced, the silver coins of the Netherlands and the five-franc piece of France, Belgium, Italy, and Switzerland became depreciated to an extent which enabled exchange dealers and speculators to largely import silver for coinage, and these coins entering freely into circulation soon caused gold to be exported.

The countries referred to became alarmed, and measures were taken by them to prevent a further influx of silver at the expense of gold. The Netherlands temporarily closed its mint, and France, together with her monetary allies, limited the manufacture of * legal-tender silver coins at their respective mints to a total of about \$28,000,000 for the year 1874, and the same amount for 1875; the contingent for each year being about as follows:

	Francs.
France.....	60,000,000
Belgium.....	12,000,000
Italy.....	60,000,000
Switzerland.....	8,000,000

* The words "legal-tender silver coins" refer to coins that are by law unlimited legal tender, and not to subsidiary or token silver coins which are purposely over-valued, issued on government account only, and limited as to issue and legal tender.

The closing of the Netherlands mint was followed by the enactment of a law which authorized the coinage of a legal-tender gold piece, and prohibited the coinage of silver, except for government account. These measures were skillfully taken, and closed the door against silver, and correspondingly opened it for gold.

The delay in completing the great monetary reform in Germany must be attributed mainly to the action of the neighboring countries in practically closing what was expected would be the best and largest markets for silver. Under the former money system, Germany was a purchaser of silver; but when the change from the silver to the gold standard took place, ceased to be so and became a large seller.

The condition of the State Bank of Russia would appear to indicate that the prospective fall in silver had caused some uneasiness at St. Petersburg, and that protective measures had been taken, from the fact that the Bank held on the 1st of January, 1856, 67,897,561 roubles, gold, and 45,234,372 roubles, silver; and on July 22, 1874, 194,049,231 roubles, gold, and 23,315,329 roubles, silver.

Notwithstanding the large amount of specie received in payment of the French indemnity, Germany has, from time to time, since 1872, been a purchaser of large sums of gold, and the manufacture of the new standard national coins has already amounted to about \$285,000,000. The coins, however, have not gone into general circulation to the extent originally expected, for the reason that the old standard silver coins which are inferior in value continue, under the provisions of the new monetary law, to be effective money in payments. Gold has, therefore, to a large extent been held in the vaults of the imperial treasury, mints, and the banks.

While this has been the course in Germany, France has been gradually recovering the gold which she lost during and after the close of the war with Prussia, the Bank of France alone holding more than \$300,000,000 in specie.

The specie-stock of France before the war was estimated as follows :

	Francs.
Gold.....	4, 800, 000, 000
Silver.....	1, 200, 000, 000

The indemnity to Prussia paid in specie was 500,000,000 francs, leaving 5,500,000,000 francs in the country, which have remained in a dormant condition on account of the forced currency of paper money.

From what has been stated it will appear that governments, banks, and exchange-dealers have during the period under review been purchasers of gold which was likely to advance in value, and sellers of silver, which showed indications of a decline, and that the course of the precious metals during the last two years has not been controlled by the usual influences previously operating, but by transactions of unusual character and magnitude, involving, as a necessary consequence, large and sudden transfers of coin and bullion from one country to another, and which, by raising or depressing prices, created a wide field for speculative operations.

Fortunately such a condition of affairs rarely arises and cannot continue much longer. The gold standard is to go into force and effect throughout the entire territory of the German empire on the 1st of January, 1876, in accordance with an imperial decree of September 22, 1875, and which would appear to indicate the employment at an early day of more decided measures than heretofore for the withdrawal of the depreciated legal-tender silver coins, and thus make room for the more valuable new national money.

When the complete demonetization or withdrawal of these depreciated silver coins shall have been accomplished, gold will enter freely into the channels of circulation and money affairs resume their usual course.

France would appear to have a supply of specie abundantly sufficient for the resumption and maintenance of specie payments, and the treasury and bank reserves of Europe no doubt consist of a greater percentage of gold than at the time of the enactment of the new money law of the German empire. The sooner the German monetary reform now in progress is completed and the Bank of France, resumes specie payments, the better it will be for Germany, France, and the United States. The time fixed for resumption by France, is January, 1878, but it is probable that it will take place before the time specified.

The lowest price of silver immediately preceding the discovery of gold in California and Australia—average for the year 1848—was $59\frac{1}{2}$ pence per ounce, British standard, 925 thousandths fine, and the highest price reached after those discoveries was in 1859, the average of that year having been $62\frac{1}{8}$ pence. From 1859 there was a gradual depreciation during thirteen years, after which the influx of California and Australia gold ceased to have any influence. The average of 1872 was $60\frac{5}{8}$ pence. Since then there has been a very marked decline, the prices falling in June and July, 1875, as low as $55\frac{1}{2}$ pence.

During the last two months, September and October, the price in London has recovered to about 57 pence, owing to diminished receipts from the United States, and increased exports to the Indies and Spain.

The fabulous accounts which reached Europe of the discoveries made near the close of 1874 on the Comstock lode, in the State of Nevada, no doubt had some influence in bringing about the heavy decline in price which has occurred during the present year. Some of the accounts not only placed an excessive estimate on the probable yield of the extensive ore body, but the very important fact that the bullion from that source is, in value, nearly half gold appears to have escaped attention. For the information of those who may desire to consider the effect of the fall in silver on the finances, industries, commerce, and exchanges of different countries, it may be stated that the gold value of the principal legal-tender silver coins of European countries has, of late, averaged about $8\frac{1}{2}$ per cent. less than their tale or nominal values in the moneys of account which they respectively represent.

THE FUTURE VALUE OF SILVER.

The gold standard practically prevailed in Great Britain a long period before 1816, during which time silver was likewise in circulation and a legal tender. In that year silver was demonetized, and gold made the exclusive standard and unlimited legal tender.

Since 1870 the exclusive gold standard has been adopted by the United States, Germany, Japan, and the Scandinavian states. The double standard exists in France, Belgium, Italy, Switzerland, the Netherlands, Portugal, and Spain, and the silver standard in Russia, Austria, Mexico, China, and the Indies.

The money systems of the South American states are very much confused, and it is difficult to determine their respective legal standards, but they no doubt call for the use of more silver than gold.

The circulating medium in the United States, France, Spain, Russia, and Austria consists chiefly of forced paper currency, amounting altogether to about \$2,500,000,000 to \$3,000,000,000. The legal basis for

the redemption of the same in the United States is gold; France, Italy, and Spain gold or silver, (in the fixed proportion of one to fifteen and a half,) at the option of the issuer, and for Russia and Austria silver.

No further extension of the exclusive gold standard appears to be probable for some years to come, although the period of waiting and expectation, as the limit placed upon the legal-tender silver-coinage of the states of the Latin monetary union and the Netherlands may be characterized, will no doubt continue until the German surplus silver shall have been distributed, but its effect on the price of silver will be counterbalanced to some extent by the use of subsidiary silver coin in the United States.

Four years having elapsed since the change in the German money system was inaugurated, and the adoption of the exclusive gold standard having been carried to the full extent warranted by the supply of that metal, we may reasonably expect an increased demand for silver, but not sufficient to cause for some time to come a material alteration in the present relative valuation of gold and silver, which is about as one to seventeen.

MONEY AND THE MONEY SYSTEM OF THE UNITED STATES.

The question of returning to a specie basis is receiving general and earnest consideration, and, while its discussion does not come within the limits of this report, certain well-settled principles and facts in connection with the subject of money and the monetary system of this country may with propriety be briefly referred to.

A money standard subject to as little variation as possible, and by which values may be computed, exchanges effected, and contracts fulfilled with uniformity and equity, has long been regarded as a necessity by every well-regulated government.

The experience of nations has proved the precious metals, and particularly gold, to be the least variable as a monetary standard and the best adapted for a circulating medium of all known substances; their peculiar properties, and particularly those of easy manipulation and resistance to the elements and agencies which either destroy or injuriously affect other metals and substances, rendering them eminently adapted for this service.

No material or substance not of intrinsic value, and comparatively imperishable, is suitable for a circulating medium and permanent standard of value. The value of the precious metals depends, as in the case of all other commodities, on certain inherent qualities and the cost of production. By value, is meant the rate in the legal money-terms of a nation or government at which labor and property of all kinds are exchanged one for another. A given weight of gold or silver, unlike all other things, has a fixed value by law in the legal money-terms of all countries, and this peculiarity contributes greatly to maintain uniformity in their value.

The units of the money of account of all countries associated in modern civilization were originally based on, or declared by law to be represented by, a certain weight of pure metal in the form of coins, and the latter made a legal tender without limit.

The quantity of pure metal representing the ideal unit of the money of account, once being fixed by law, becomes the basis of exchange and measure of contracts, and its steady maintenance has always been regarded by the most enlightened statesmen and eminent writers on finance as an imperative duty of governments.

The precious metals being the real basis of all well-regulated money

systems, no one commercial country can even temporarily depart from such without subjecting itself to serious evils. All paper money issued in countries having monetary systems based on the precious metals, whether forced into circulation by authority or received without compulsion, are simply promises to pay in coins representing the monetary unit, and their payment in such coins or redemption in their equivalent is obligatory on the issuer.

Soon after the adoption of the Constitution of the United States, the subject of a national money system was taken into consideration, and able papers on the subject were contributed by Hamilton, Jefferson, Gouverneur Morris and other eminent men of that period. The result was the passage of the act of April 2, 1792, which established the Mint for the purpose of a national coinage, and the money of account of the United States; authorized the coinage of gold and silver coins of prescribed weight and fineness, and declared them lawful tenders in payment of all sums whatsoever, those of full weight according to their stamped value, and those of less than full weight at values proportional to their respective weights.

The monetary standard established by the act referred to was gold and silver, and the importance which the eminent statesmen and financiers of that day attached to a uniform standard is seen in the provision which limited the legal-tender coins of less than full weight to their *actual bullion value*.

No subsequent acts of Congress declared anything but gold and silver a legal tender in the payment of debts, until the law of February 25, 1862, was enacted. This law authorized the issue, "on the credit of the United States," of United States notes "payable to bearer at the Treasury of the United States," and declared such notes a legal tender in the payment of all debts both public and private, except duties on imports and interest on certain bonds and notes.

A forced paper currency is well known to be, from various causes, subject to frequent fluctuations in value, and, unlike the precious metals, is wanting in the property of self-adjustment under the operations of supply and demand, and for these reasons alone must always prove an uncertain system upon which to conduct the business and exchanges of the country.

PRODUCTION OF THE PRECIOUS METALS FROM THE MINES OF THE UNITED STATES.

Several communications and statements from official sources respecting the bullion production will be found in the appendix. These papers embrace a detailed account of the gross yield of the mines in the State of Nevada for the last fiscal year, kindly furnished through the superintendent of the Carson mint by the State comptroller. It would be a very valuable addition to our bullion statistics if similar statements to that furnished by the State authorities of Nevada could be procured from all the States and Territories in which the precious metals are produced.

I take this occasion to acknowledge the hearty co-operation of the various State officials who were invited to furnish information on this subject.

NEW AND EXTENSIVE DEVELOPMENTS OF PRECIOUS-METAL ORES ON THE COMSTOCK LODE.

It was a curious coincidence that, about the time the spacious new mint at San Francisco was completed, and increased facilities given the

Carson mint by the duplication of its coining-machinery, that the Pacific coast should be surprised by the reported discovery of an ore-body in the Comstock lode which surpassed, in extent and richness, all others that had been previously met with.

Since the usefulness of those mints to the country at large, and more especially California and Nevada, depended upon the supply of the precious metals which they receive for manipulation, it was important to ascertain how far the expectations of an abundant supply from that source were likely to be realized. Additional interest was given to this discovery in consequence of the passage of an act of Congress looking to preparations for a return to specie payments.

In view of these facts, and being in California during the summer on official business, I felt it my duty to obtain correct information respecting the extent of the ore-body and its prospective yield of bullion. I accordingly sought a conference with the managers of the "Consolidated Virginia" and "California" mines, in which the discovery was represented to have been made, and explained to them my views, stating that the information sought was deemed important for the use of the Government.

The gentlemen applied to cheerfully acquiesced in my wishes, and volunteered every aid they could give in promoting my object, offering to allow me to select any one whom I thought proper to go into the mines for the purpose of making full observations and measurements, and to take specimens from the several drifts, cross-cuts, and winzes for assay, representing, as nearly as could be obtained, an average of the ore-body.

In view of this offer, I determined to make a personal inspection of these mines, and to call to my aid the services of Prof. Robert E. Rogers, who, as before stated, had been selected for the important duty of superintending the equipment of the refinery in the new mint at San Francisco. The annual settlement of the San Francisco mint having been completed, I visited Virginia City, in company with Professor Rogers, on the 16th day of July. After spending a day in examining the topography of the locality and the general course of the Comstock lode, as exhibited by the workings along its line, we entered the mines, and on the first day examined the drifts and cross-cuts, which had been made on the 1,400, 1,500, and 1,550 feet levels, observing the course of the same, and making such a collection of specimens as seemed to us to represent an average of the character of the ore-body. Upon comparing our views, it appeared that there were some points which needed a farther and corroborative inspection, and accordingly the next day Professor Rogers repeated his visit into the mines, settled the points that had been omitted on the first day, and gathered a second extensive collection of specimens for assay.

Before we left Virginia City for San Francisco, the superintendent of the mines placed in our hands certified surveys, exhibiting the direction, relative position, and length of the galleries, cross-cuts, and winzes of the different levels. These surveys were taken to San Francisco for careful examination and study.

On the 26th of August, having official business at the Carson mint, I again visited the mines, repeated their inspection, and examined especially the explorations which had been made since my previous visit, taking specimens from them for assay.

At my request, the superintendent of the mines has furnished a statement, showing the explorations and developments made from August 26th, the date of my last visit, up to the 2d instant, (November.)

In the mean time, the assays of the specimens taken have been made under the supervision of Professor Rogers.

With the data thus obtained, we have been able to arrive at somewhat definite conclusions as to the probable yield of these mines. These conclusions are embodied in a report by Professor Rogers, herewith submitted, and in which I concur.

I have referred to the two mines under one head, since, for the purpose of our examination, it was not necessary to make any distinction between them. After the works recently destroyed by fire shall have been rebuilt and operations fully resumed, the total production of all the mines on the Comstock may be safely estimated at not less than fifty million dollars per annum, about forty-five per cent. of which will be gold.

In this connection it is interesting to add, as indicating the extensive bullion-resources of our western country, that a production nearly equal to that estimated for the Comstock may be anticipated from other domestic sources during the year 1876.

The favorable condition of the precious-metal mining industry is due to the judicious expenditure of a large amount of capital in extensive enterprises, by men of superior energy and business qualifications. Nearly all the mines on the Comstock, as well as the hydraulic gravel-mines in California and vein-mines in other localities, as a general rule, made heavy drafts on labor and capital before any returns on the outlay were secured. Notwithstanding the improvements which have been made in mining and in the reduction of ores, the business is one of uncertainty and hazard, and, taking one year with another, the expenses no doubt equal, if they do not exceed, the production.

Many of the present largest yielding mines were originally discovered by the adventurous and daring prospectors, who are always advancing into unexplored localities and endure hardship and danger which would soon discourage the boldest, were it not that under the liberal and fostering policy of the Government the discoveries which they may make become their own property, subject to conditions looking to a certain degree of exploration and development before complete title can be acquired. The first capital which follows these prospectors is generally sunk, and but a small proportion of the mines are continuously worked, and many totally abandoned after considerable expenditures have been made.

These facts show that the policy pursued by the Government with reference to the precious-metal mining-interests has been eminently wise, and should be steadily continued.

THE CONSTRUCTION GIVEN THE FIRST SECTION OF THE ACT OF MARCH 3, 1873, AS TO THE RULE OF VALUATION OF FOREIGN COINS, SUSTAINED BY THE SUPREME COURT.

In my last annual report the operations of the act of March 3, 1873, prescribing a new rule for the valuation in United States money of account, of foreign coins, and fixing the par of exchange with Great Britain, were described at some length, and the fact stated that the question as to the legality of the construction given the first section of the act by the Treasury Department was then pending in the Supreme Court of the United States.

Since the date of that report, the decision of that tribunal, sustaining the departmental construction, has been rendered, and the new rule of valuation applied to the standard coins respectively of all countries.

The values respectively of the standard coins of different countries, ascertained and proclaimed in accordance with the section of law referred to, will be subject to alteration only when any country shall change or modify its monetary standard.

MONEY SYSTEM OF CHINA.

Our increasing commercial intercourse with China renders it quite necessary that we should possess accurate information as to the different money units or weights in use in the various ports of that extensive empire. The non-intercourse policy with foreigners, so long and rigidly observed, is gradually giving way under the influence of commerce, and it is to be hoped that the Chinese will, at no distant period, see the necessity which exists for, and the advantages which would result from, a reform in their present defective money system.

The nominal moneys of account are the liang, tséen, fun, and le, called by foreigners tael, mace, candareen, and cash. They are, with the exception of the last named, denominations of weight in decimal proportions.

Under the title of the Chinese tael, in the appendix will be found valuable information respecting the money-weights of China and the mode of using bullion in business transactions, for which we are indebted to the zealous and intelligent labors of S. Wells Williams, esq., secretary of the United States legation, Peking, and to the United States consuls at the various ports of the empire.

TEST ASSAYS OF THE COINAGE OF JAPAN.

Samples of the test or pyx coins of the imperial mint at Osaka, Japan, sent through the Department of State, with a request from the Japanese government that they be assayed at the Philadelphia mint, were received on the 1st instant, (November,) and, pursuant to your instructions, have been carefully tested at the Philadelphia mint, and the results reported to you.

The correspondence of the Japanese assays to those made here is very satisfactory, and shows that the legal standard fineness or purity of the coinage of Japan is faithfully maintained.

MONEY STATISTICS.

We are frequently called upon by members of Congress and others for information respecting the amount of specie in the country at different periods.

In my first annual report, 1873, I estimated from the most reliable data obtainable the amount of gold and silver coin in the country on the 30th of June of that year at \$140,000,000. The estimate for June 30, 1874, was \$166,846,228. The product of the mines during the last fiscal year may be stated at about \$72,000,000, and the imports of bullion for the same period \$20,900,717, making a total of \$259, 746, 945 Deducting from this total the exports of the last fiscal

year	92, 132, 142
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Leaves as the estimated stock on the 30th of June, 1875. 167, 614, 803

In this estimate no account has been taken of the amount of gold and silver consumed in the arts and manufactures from June 30, 1872, to June 30, 1875. It is difficult to obtain any reliable data upon this

point. Whatever the amount may have been, it was reduced to a considerable extent by the plate and other manufactured articles of gold and silver which found their way to the melting-pot from the accumulated stock of the country. Making due allowance for the latter, the amount to be deducted from the estimated total may be stated at, say, \$15,000,000, and allowing \$10,000,000 for possible overestimates, would leave the amount of coin in the country on the 30th of June, 1875, at about \$142,000,000. Of this total, about \$12,000,000 to \$15,000,000 consists of silver coin and bullion.

I have taken considerable care to make an estimate of the amount of specie-circulation of the country at various important financial periods, availing myself of the Treasury and congressional reports, and covering the time since 1790. This information will be found in the appendix.*

THE PRINTING OF CERTAIN DOCUMENTS RELATING TO MONETARY SYSTEMS SUGGESTED.

During the last two years a number of documents have been received at this Office, in response to circulars sent through the Department of State to our representatives abroad, containing valuable information relative to the monetary systems of foreign countries and the annual production of the precious metals. These documents have been translated, and it is suggested that they should be printed for public use. If this suggestion meets your approval, a small appropriation should be procured to cover the expense of properly arranging these papers, under the supervision of this Office.

SILVER CONTAINING MERCURY.

Gold and silver bullion is sometimes combined with other metals of a character calculated to render not only the complete refining of the gold and silver difficult, but to embarrass in a certain degree their assay, the correctness of which is of the highest importance, since by it the proportion of gold and silver respectively in all classes of bullion is determined, and constitutes the basis of all computations.

Traces of mercury having been observed in some of the deposits of silver recently received at the Philadelphia mint, the assayer of the

*The Treasurer of the United States in his report for the fiscal year ended June 30, 1872, (Finance Report 1871-72, p. 269,) gives the total cash balance at the close of that year as \$107,587,169, and states that the balance consists of gold and silver..... \$89,764,599

Other lawful money..... \$17,822,569

The report of the Comptroller of the Currency for the same year (Finance Report, p. 96) gives the amount of coin held by the national banks in New York City on June 10, 1872, at..... 3,782,909
Other national banks..... 4,842,154

Making a total in the Treasury and national banks of..... 98,389,662

On page 307, Finance Report 1871-72, the Treasurer of the United States states the total amount of coin-certificates outstanding at..... 33,149,500
And the amount redeemed but not destroyed..... 1,063,200

Leaving total outstanding..... 32,086,300

No portion of these outstanding certificates was included in the Treasurer's coin balance or in the Comptroller's statement of the amount of coin held by the national banks in New York City.

The item of \$4,842,154 coin held by other national banks included some coin-certificates, but the amount was inconsiderable.

institution made a careful examination of the subject, and has given the facts ascertained and conclusions arrived at in an interesting report, which will be found in the appendix.

ANNUAL SETTLEMENT.

The annual settlement of the coinage-mints and the assay-office at New York, and which embraced a careful count of the coin and bullion on hand at each institution, was made at the close of the fiscal year and proved satisfactory, the wastage having been unusually small.

My personal supervision was given to the settlement of the San Francisco and Carson mints: and at the Philadelphia mint and the assay-office, New York, experienced clerks of this Bureau attended and supervised the same.

I discharge a pleasant duty in acknowledging the faithfulness and efficiency with which the clerks of this Bureau have discharged their duties, and the fidelity and skill with which the various operations of the mints and assay-offices have been conducted.

I have the honor to be, very respectfully,

H. R. LINDERMAN,
Director of the Mint.

Hon. B. H. BRISTOW,
Secretary of the Treasury.

B 1.—Gold and silver of domestic production, (including United States bullion purchased), deposited at the mints and assay-offices during the fiscal year ended June 30, 1875.

Locality.	Mints.				Assay-offices.		Total.
	Philadelphia.	San Francisco.	Carson.	Denver.	New York.	Charlotte.	
GOLD.							
Alabama.....	\$222 22	.....	.....	.....	\$158 32	.....	\$380 54
Arizona.....	29 84	570,962 08	.....	.....	233 80	.....	71,225 72
California.....	1,585 24	8,516,526 35	.....	.....	268,172 33	.....	8,786,283 92
Colorado.....	4,141 75	.....	.....	\$845,608 79	580,145 63	.....	1,429,986 17
Georgia.....	23,001 70	.....	.....	.....	15,680 90	.....	38,682 60
Idaho.....	5,396 48	67,900 56	.....	.....	474,851 29	.....	657,654 27
Iowa.....	.....	.....	.....	.....	192 58	.....	192 58
Kansas.....	80 62	.....	.....	.....	.....	.....	80 62
Montana.....	28,393 70	3,479 99	.....	.....	2,254,426 13	.....	2,286,299 82
Nebraska.....	195 70	.....	.....	.....	352 87	.....	352 87
New Mexico.....	14,180 88	.....	.....	63,312 23	54,074 73	.....	131,567 84
Nevada.....	.....	2,273 38	\$2,540,057 59	.....	112 42	.....	2,542,443 39
New Hampshire.....	4,703 17	.....	.....	.....	497 75	.....	5,200 92
North Carolina.....	98,500 45	.....	.....	.....	5,025 27	.....	108,628 54
Oregon.....	1,160 33	223,190 57	.....	.....	1,423 69	.....	232,784 81
South Carolina.....	322 92	.....	.....	.....	.....	992 54	1,315 46
Tennessee.....	189 69	.....	.....	.....	127 83	.....	317 52
Utah.....	2,647 61	2,280 89	.....	.....	21,474 26	.....	26,402 76
Virginia.....	1,229 00	.....	.....	.....	263 98	.....	1,492 98
Vermont.....	1,290 72	.....	.....	.....	.....	.....	1,290 72
Washington Territory.....	.....	1,680 15	.....	.....	.....	.....	1,680 15
Wyoming Territory.....	2,768 93	.....	.....	.....	7,520 51	.....	10,289 47
Refined gold.....	.....	16,589,725 61	.....	.....	.....	.....	16,589,725 61
Parted from silver.....	.....	.....	.....	.....	746,146 35	.....	759,347 47
Contained in silver.....	.....	562,745 01	.....	.....	.....	.....	569,211 88
Other sources.....	.....	.....	.....	.....	.....	466 76	13,069 19
Total gold.....	215,835 50	26,046,764 29	2,540,057 59	909,011 02	4,430,880 67	6,562 12	34,266,124 52
SILVER.							
California.....	.....	.....	.....	.....	329,690 29	.....	329,690 29
Colorado.....	.....	.....	.....	82,553 49	2,200,602 38	.....	2,283,155 87
Idaho.....	.....	.....	.....	.....	8,367 32	.....	8,666 60
Lake Superior.....	5,478 29	.....	.....	.....	211,371 34	.....	216,849 63
Montana.....	21,409 45	.....	.....	.....	73,257 48	.....	94,666 93
Nevada.....	1,748,064 31	.....	.....	.....	1,241,319 93	.....	7,241,839 54
New Mexico.....	467 41	.....	.....	554 98	175,558 61	.....	176,581 00

B 1.—Gold and silver of domestic production deposited at the mints and assay-offices, &c.—Continued.

Locality.	Mints.				Assay-offices.			Total.
	Philadelphia.	San Francisco.	Carson.	Denver.	New York.	Charlotte.	Boise.	
SILVER—Continued.								
North Carolina								
Oregon	\$66 68	\$301 94				\$48 02		\$114 70
South Carolina	106 85							468 79
Utah						2 93		2 93
Refined silver	110,084 76	2,766 68			\$698,390 55			\$11,241 99
Contained in gold		3,780,122 90						3,780,122 90
Parted from gold		66,403 97					\$466 87	66,870 84
Other sources					76,313 62			86,538 12
		52,984 27				76 96		63,024 81
Total silver	1,907,875 89	5,127,124 33	\$3,030,910 73	\$83,108 47	5,014,871 52	127 91	766 15	15,164,785 00
Total gold and silver	2,123,711 39	31,173,888 62	5,570,968 32	992,119 49	9,445,732 19	6,690 03	117,779 48	49,420,909 52

Coinage executed at the mints of the United States during the fiscal year ended June 30, 1875.

Denomination.	Mint United States, Philadelphia.		Mint United States, San Francisco.		Mint United States, Carson.		Total.
	Pieces.	Value.	Pieces.	Value.	Pieces.	Value.	
GOLD.							
Double-eagles.....	238,919	\$4,778,200	1,300,000	\$26,000,000	98,497	\$1,969,940	\$32,748,140
Eagles.....	25,060	380,600	10,000	100,000	11,924	119,240	599,840
Half-eagles.....	348	1,740	20,000	100,000	20,383	101,915	203,655
Three dollars.....	20	60	.....	.....	.....	.....	60
Quarter-eagles.....	100	2,250	.....	.....	.....	.....	2,250
Dollars.....	20	20	.....	.....	.....	.....	20
Total gold.....	278,258	5,162,870	1,330,000	26,209,000	130,804	2,191,095	33,553,965
SILVER.							
Trade-dollars.....	476,800	476,800	3,373,000	3,373,000	1,841,700	1,841,700	5,697,500
Half-dollars.....	4,415,000	2,207,500	958,000	479,000	331,000	165,500	2,853,500
Quarter-dollars.....	2,003,800	500,950	492,000	123,000	.....	.....	623,950
Twenty-cent.....	11,000	2,200	15,000	3,000	1,316	638	3,858
Dimes.....	4,580,600	458,060	3,430,000	343,000	855,000	85,500	8,808,560
Total silver.....	11,487,200	3,645,510	8,274,000	4,327,000	3,063,016	2,697,838	10,070,398
MINOR.							
Five-cent.....	1,803,000	94,650	.....	.....	.....	.....	94,650
Three-cent.....	418,000	12,540	.....	.....	.....	.....	12,540
One-cent.....	12,318,500	123,185	.....	.....	.....	.....	123,185
Total minor.....	14,629,500	230,375	.....	.....	.....	.....	230,375
Total coinage.....	26,394,958	9,038,755	9,604,000	30,527,000	3,192,820	4,888,933	43,851,708

Statement of bars manufactured at the mints and assay-offices during the fiscal year ended June 30, 1875.

Description.	Mints.				Assay-offices.			Total.
	Philadelphia.	San Francisco.	Carson.	Denver.	New York.	Charlotte.	Boise.	
GOLD.								
Fine bars.....	\$40,713 92				\$5,238,763 54			\$5,279,477 46
Unparted bars.....		\$9,624,439 39	\$83,376 61	\$909,011 02		\$6,562 12	\$117,013 33	10,740,402 47
Total gold.....	40,713 92	9,624,439 39	83,376 61	909,011 02	5,238,763 54	6,562 12	117,013 33	16,019,879 93
SILVER.								
Fine bars.....	278,072 74		244,728 10		4,609,115 06			5,231,915 90
Unparted bars.....		\$36,841 73	798,821 70	\$3,108 47		127 91	766 15	1,719,665 96
Sterling bars.....					77,848 68			77,848 68
Total silver.....	278,072 74	\$36,841 73	1,143,549 80	\$3,108 47	4,686,963 74	127 91	766 15	7,029,439 54
Total gold and silver.....	318,786 66	10,461,281 12	1,226,926 41	992,119 49	9,925,727 28	6,690 03	117,779 48	23,049,310 47

Minor coins received, re-issued, and exchanged during the fiscal year ended June 30, 1875.

REDEEMED.

Denomination.	Pieces.	Value.
Copper one-cent pieces.....	725,387	\$7,253 87
Nickel one-cent pieces.....	2,401,835	24,018 35
Bronze one-cent pieces.....	4,055,177	40,551 77
Bronze two-cent pieces.....	1,401,134	28,022 68
Nickel three-cent pieces.....	731,202	21,936 06
Nickel five-cent pieces.....	3,383,451	169,172 55
Total.....	12,698,186	290,955 28 *

RE-ISSUED.

Bronze one-cent pieces.....	4,564,000	\$15,640 00
Nickel three-cent pieces.....	761,400	22,842 00
Nickel five-cent pieces.....	3,872,000	193,600 00
Total.....	9,197,400	262,082 00

EXCHANGED.

Copper one-cent pieces.....	1,991	\$19 91
Bronze one-cent pieces.....	10,002	100 02
Bronze two-cent pieces.....	4,500	90 00
Nickel five-cent pieces.....	995	49 75
Total.....	17,488	259 68

DELIVERED TO MELTER AND REFINER FOR MELTING.

Copper one-cent pieces.....	1,667,231	\$16,672 31
Nickel one-cent pieces.....	6,200,000	62,000 00
Bronze one-cent pieces.....	64,000	640 00
Bronze two-cent pieces.....	1,463,724	29,274 48
Nickel three-cent pieces.....	27,000	810 00
Nickel five-cent pieces.....	45,000	2,250 00
Total.....	9,466,955	111,646 79

Gold and silver of domestic production deposited at the mints and assay-offices to the close of the fiscal year ended June 30, 1875.

Locality.	Gold.	Silver.	Total.
Alabama.....	\$212,467 66		\$212,467 66
Arizona.....	1,188,763 64	811,049 94	1,229,813 58
Alaska.....	397 64		397 64
California.....	657,197,514 48	594,090 81	657,791,605 29
Colorado.....	23,171,189 83	5,223,102 70	28,394,292 53
Dakota.....	5,760 00		5,760 00
Georgia.....	7,337,429 52	493 83	7,337,833 35
Idaho.....	20,075,178 80	326,391 83	20,401,570 63
Iowa.....	492 58	468 00	660 58
Kansas.....	955,948 06		955,948 06
Lake Superior.....		2,092,782 82	2,092,782 82
Maryland.....	402 12		402 12
Montana.....	38,926,918 48	399,028 44	39,325,946 92
Nebraska.....	27,931 29	741,912 35	769,843 64
New Mexico.....	1,136,323 56	416,155 49	1,552,479 05
Nevada.....	6,094,195 02	20,737,254 33	26,831,449 35
New Hampshire.....	7,501 94		7,501 94
North Carolina.....	10,199,284 52	44,743 33	10,244,027 85
Oregon.....	12,546,855 91	2,298 89	12,549,154 80
South Carolina.....	1,380,392 93	2 93	1,380,395 86
Tennessee.....	79,491 08		79,491 08
Utah.....	242,724 51	3,785,383 25	4,028,107 76
Vermont.....	10,195 69		10,195 69
Virginia.....	1,635,269 64		1,635,269 64
Washington.....	76,287 34		76,287 34
Wyoming.....	474,146 69	6,756 75	480,903 44
Refined gold.....	105,657,838 82		105,657,838 82
Parted from silver.....	6,413,086 32		6,413,086 32
Contained in silver.....	872,891 44		872,891 44
Refined silver.....		17,423,926 41	17,423,926 41
Parted from gold.....		6,040,984 20	6,040,984 20
Contained in gold.....		309,019 60	309,019 60
Other sources.....	9,905,662 06	369,448 50	10,274,510 56
Total.....	905,534,611 57	58,546,204 40	964,077,845 97

Summary exhibit of the coinage of the mints to the close of the fiscal year ended June 30, 1874.

Mint.	Period.	GOLD.					
		Double-eagles.	Eagles.	Half-eagles.	Three dollars.	Quarter-eagles.	Dollars.
Philadelphia	1793	\$339, 278. 840	\$35, 832, 080	\$51, 958, 765	\$1, 033, 773	\$21, 513, 000 00	\$18, 063, 678
New Orleans, to January 31, 1861.	1838	16, 329, 000	15, 976, 920	3, 764, 625	72, 000	3, 002, 195 00	1, 604, 000
Charlotte, to March 31, 1861	1838	.....	.....	4, 389, 915	.....	549, 592 50	109, 134
Dahlonega, to February 28, 1861.	1838	.....	.....	5, 545, 415	3, 360	494, 625 00	72, 529
San Francisco	1851	367, 635, 020	4, 260, 560	3, 203, 540	186, 300	1, 177, 565 00	90, 232
Carson	1870	4, 517, 160	427, 850	410, 920	.....	.....	.....
Total		727, 760, 020	56, 497, 410	69, 273, 180	1, 295, 433	26, 736, 917 50	19, 339, 573

Mint.	Period.	SILVER.						
		Dollars.	Half-dollars.	Quarter-dollars.	Twenty cents.	Dimes.	Half-dimes.	Three cents.
Philadelphia	1793	\$8, 557, 850	\$71, 867, 077 00	\$19, 741, 673 50	\$2, 200, 84, 143, 124 50	\$3, 977, 346 90	\$1, 260, 250 20	
New Orleans, to January 31, 1861.	1838	974, 000	23, 770, 050 00	2, 661, 550 00	.....	1, 526, 653 00	810, 500 00	21, 600 00
Charlotte, to March 31, 1861.	1838	.....	.....	.....	.....	.....	.....	.....
Dahlonega, to February 28, 1861.	1838	.....	.....	.....	.....	.....	.....	.....
San Francisco	1851	5, 529, 700	7, 925, 225 00	665, 825 00	3, 000	679, 575 00	119, 100 00	.....
Carson	1870	2, 270, 688	575, 313 50	14, 635 50	658	98, 258 80	.....	.....
Total		17, 332, 238	104, 137, 665 50	23, 083, 684 00	5, 858 10, 447, 611 30	4, 906, 946 90	1, 281, 850 20	

Mint.	Period.	MINOR.				
		Five cents.	Three cents.	Two cents.	Cents.	Half-cents.
Philadelphia	1793	\$5, 615 140	\$907, 530	\$912, 020	\$5, 147, 572 44	\$39, 926 10
New Orleans to January 31, 1861.	1838	.....	.....	.....	.....	.....
Charlotte, to March 31, 1861.	1838	.....	.....	.....	.....	.....
Dahlonega, to February 28, 1861.	1838	.....	.....	.....	.....	.....
San Francisco	1851	.....	.....	.....	.....	.....
Carson	1870	.....	.....	.....	.....	.....
Total		5, 615, 140	907, 530	912, 020	5, 147, 572 44	39, 926 10

Mint.	Period.	Total gold.	Total silver.	Total minor.	Total coinage.
Philadelphia	1793	\$467, 680, 136 00	\$113, 549, 522 10	\$12, 622, 188 54	\$593, 851, 846 64
New Orleans, to January 31, 1861.	1838	40, 148, 740 00	29, 764, 353 00	.....	69, 913, 093 00
Charlotte, to March 31, 1861	1838	5, 048, 641 50	.....	.....	5, 048, 641 50
Dahlonega, to February 28, 1861	1838	6, 115, 929 00	.....	.....	6, 115, 929 00
San Francisco	1851	376, 553, 157 00	14, 922, 425 00	.....	391, 475, 582 00
Carson	1870	5, 355, 930 00	2, 959, 553 80	.....	8, 315, 483 80
Total		900, 902, 533 50	161, 195, 853 90	12, 622, 188 54	1, 074, 720, 575 94

Summary exhibit of bars manufactured to the close of the fiscal year ended June 30, 1875.

Mint.	Period.	Gold bars---			Silver bars			Total value.
		Fine.	Unparted.	From standard British coin.	From light United States coin.	Fine.	Unparted.	
Philadelphia	1793	\$35,516,289 46	.....	.....	.....	\$4,330,371 51	.....	.....
San Francisco	1854	236,653 89	852,910,776 95	.....	.....	1,436,307 17	.....	.....
Carson	1870	119,113 87	9,536,638 17	.....	.....	2,016,926 16	.....	.....
Denver	1864	.....	8,323,027 92	.....	.....	129,957 17	.....	.....
New York	1854	209,911,519 31	.....	\$5,922,836 23	\$9,910,773 16	19,580,256 96	.....	\$35,516,289 46
Charlotte	1838	.....	75,893 12	.....	.....	1,041 72	.....	53,147,439 81
Boise	1872	.....	370,778 95	.....	.....	4,981 00	.....	9,653,782 01
New Orleans to 1861	1839	.....	.....	.....	.....	377,237 13	.....	8,323,027 92
Total	.....	215,783,636 56	71,277,115 11	5,922,836 23	9,940,773 16	24,751,088 93	12,292,554 48	245,775,158 73
								19,668,105 61
								1,044 72
								4,981 00
								377,237 13
								332,864,361 06
								37,121,502 09
								369,985,863 15

RECOINAGE OF LIGHT GOLD COIN.

The following table exhibits the recoinage of light gold coin from the 1st of July, 1872, to the 30th of June, 1875:

Period.	Tale value.	Net value.	Weight.		Loss.			Percentage of loss.
			Standard.	Before melt-ing.	After melt-ing.	By recoin-age.	By abra-sion.	
			Ounces.	Ounces.	Ounces.	Dollars.	Ounces.	
July 1, 1872, to June 30, 1874.	32,717,189 50	32,523,620 52	1,758,548 93	1,748,879 85	1,748,379 76	193,568 92	500 09	By recoinage.
July 1, 1874, to June 30, 1875.	1,298,371 50	1,287,162 71	69,787 48	69,249 21	69,219 20	11,208 79	11 21	By abrasion.
Total	34,015,561 00	33,810,783 23	1,828,336 41	1,818,129 06	1,817,598 96	204,777 77	530 10	Over $\frac{1}{2}$ of 1 %.
							263 21	3.5 off %
							530 10	Over $\frac{1}{2}$ of 1 %.

Statement showing the amount of subsidiary silver coin issued in payment of silver contained in gold-deposits, and exchanged for gold coins at par, at the mints in San Francisco and Carson City, from April 1, 1873, to June 30, 1875.

Period.	Mint.	Issued in pay- ment of silver contained in gold deposits.	Exchanged for gold coins at par.	Total.
April 1, 1873, to June 30, 1874.....	San Francisco.	\$75,687 77	\$66,716 53	\$142,404 30
Fiscal year ended June 30, 1875.....	do	46,260 71	15,973 31	62,234 02
April 1, 1873, to June 30, 1874.....	Carson	5,999 63	94,318 04	100,317 67
Fiscal year ended June 30, 1875.....	do	4,917 04	4,452 06	9,369 10
Total.....		132,865 15	181,459 94	314,325 09

Statement of trade-dollar and subsidiary silver coinage to the close of the fiscal year ended June 30, 1875, at mints in Philadelphia, San Francisco, and Carson.

Period.	Trade-dollar coinage.	Subsidiary silver coinage.				Total sub- sidiary silver coinage.	Total silver.
		Half- dollars.	Quarter- dollars.	Twenty- cents.	Dimes.		
April 1 to June 30, 1873.....		\$467,000	\$91,875 00		\$107,115 00	\$665,990 00	\$665,990 00
Fiscal years ended—							
June 30, 1874.....	\$3,588,900	1,438,930	458,515 50		497,255 80	2,394,701 30	5,983,601 30
June 30, 1875.....	5,697,500	2,853,500	623,950 00	85,858	889,560 00	4,372,868 00	10,070,368 00
Total.....	9,286,400	4,752,430	1,174,340 50	5,858	1,493,930 80	7,433,559 30	16,719,959 30

Statement of medals, proof-coins, and pattern-pieces manufactured at the mint of the United States, Philadelphia, during the fiscal year ended June 30, 1875.

Description.	Number made.	Number sold.	Selling value.	Profit.
Gold medals.....	109	109	\$2,760 50	.....
Silver medals.....	14,075	13,791	5,850 20	.....
Bronze medals.....	13,159	12,582	4,470 30	.....
Gold proof-sets.....	22	22	946 00	.....
Silver proof-sets.....	678	662	2,159 00	.....
Total.....	28,043	27,169	16,186 00	\$5,717 16

RESULT OF ANNUAL ASSAY, FEBRUARY, 1875.—EXTRACT FROM REPORT OF COMMITTEE ON WEIGHING.

Weight of arranged piles taken from the coins reserved at the mints in Philadelphia, San Francisco, and Carson during the calendar year 1874.

Mint.	Number of pieces.	Value.	Weight.		Deviation from legal weight.
			Legal.	Actual.	
PHILADELPHIA.					
Gold.					
		Dolls.	Ounces.	Ounces.	Ounces.
Double-eagles	100	2,000	.....	.....	.....
Eagles	50	500	.....	.....	.....
Half-eagles	6	30	.....	.....	.....
Three-dollars	32	96	.....	.....	.....
Quarter-eagles	6	15	.....	.....	.....
Dollars	166	166	.....	.....	.....
Total		2,807	150.87625	150.871	.00525
Double-eagles	50	1,000	.....	.....	.....
Eagles	20	200	.....	.....	.....
Total		1,200	64.50	64.496	.004

Weight of arranged piles taken from the coins reserred, &c.—Continued.

Mint.	Number of pieces.	Value.	Weight.		Deviation from legal weight.
			Legal.	Actual.	
<i>Silver.</i>		<i>Dolls.</i>	<i>Ounces.</i>	<i>Ounces.</i>	<i>Ounces.</i>
Half-dollars	100	50			
Quarter-dollars	80	20			
Dimes	100	10			
Total		80	64.30	64.298	— .002
Half-dollars	100	50			
Quarter-dollars	80	20			
Dimes	100	10			
Total		80	64.30	64.325	+ .025
Trade-dollars	100	100	87.50	87.5022	+ .0022
Do	100	100	87.50	87.50223	+ .00223
Total		200	175.00	175.00443	+ .00443
SAN FRANCISCO.					
<i>Gold.</i>					
Double-eagles	100	2,000	107.50		
Eagles	10	100	5.375		
Total		2,100	112.875	112.874	— .001
Double-eagles	100	2,000	107.50		
Half-eagles	16	80	4.30		
Total		2,080	111.80	111.7975	— .0025
<i>Silver.</i>					
Half-dollars	50	25			
Quarter-dollars	40	10			
Dimes	50	5			
Total		40	32.15	32.1555	+ .0055
Half-dollars	50	25			
Quarter-dollars	40	10			
Dimes	50	5			
Total		40	32.15	32.1444	— .0056
Trade-dollars	100	100	87.50	87.516	+ .016
Do	100	100	87.50	87.507	+ .007
<i>Gold.</i>					
Double-eagles	100	2,000	107.50	107.502	+ .002
Do	100	2,000	107.50	107.494	— .006
<i>Silver.</i>					
Trade-dollars	100	100	87.50	87.514	+ .014
Do	100	100	87.50	87.494	— .006
CARSON.					
<i>Gold.</i>					
Double-eagles	20	400			
Eagles	5	50			
Half-eagles	4	20			
Total		470	25.2625	25.2625	Standard.
Double-eagles	20	400			
Eagles	5	50			
Half-eagles	4	20			
Total		470	25.2625	25.2645	+ .002
<i>Silver.</i>					
Trade-dollars	40	40	35	35.009	+ .009
Do	40	40	35	35.005	+ .005

Weight of arranged piles taken from the coins reserved, &c.—Continued.

Mint.	Number of pieces.	Value.	Weight.		Deviation from legal weight.
			Legal.	Actual.	
<i>Gold.</i>					
Double-eagles	43	<i>Dolls.</i> 860	<i>Ounces.</i>	<i>Ounces.</i>	<i>Ounces.</i>
Eagles	9	90	.....	.....	.....
Half-eagles	10	50	.....	.....	.....
Total.....	.....	1, 000	53. 75	53. 752	+ . 002
<i>Silver.</i>					
Trade-dollars.....	100	100	87. 50	87. 504	+ . 004
Do	100	100	87. 50	87. 504	+ . 004
Half-dollars	16	8	6. 43	6. 425	— . 005

Weight of single pieces taken from the coins reserved at the mints in Philadelphia, San Francisco, and Carson, during the calendar year 1874.

GOLD.

Mints.	Denomination of coin.	Weight.		Deviation from legal weight.		Remarks.
		Legal.	Actual.	Heavy.	Light.	
Philadelphia	Double-eagle....	<i>Grains.</i> 516	<i>Grains.</i> 516. 09	<i>Grains.</i> . 09		
			515. 54		. 46	
			516. 10	. 10		
			516. 12	. 12		
			516. 16	. 16		
			515. 99		. 01	
			516. 11	. 11		
			516. 15	. 15		
			515. 93		. 07	
			515. 85		. 15	
			515. 97		. 03	
			516. 19	. 19		
			516. 14	. 14		
			516. 24	. 24		
			515. 99		. 01	
			515. 87		. 13	
			515. 84		. 16	
			516. 12	. 12		
			516. 22	. 22		
			515. 84		. 16	
				+ 1. 64	— 1. 18	= . 46 ÷ 20 = + . 023
	Eagle	258	257. 92		. 08	
			257. 92		. 08	
			257. 93		. 07	
			257. 99		. 01	
			258.			
			258. 01	. 01		Standard.
			257. 97		. 03	
			257. 91		. 09	
			257. 92		. 08	
			258. 25	. 25		
				+ . 26	— . 44	= . 18 ÷ 10 = . 018
	Half-eagle	129	128. 89		. 11	
			129. 05	. 05		
			129. 01	. 01		
			129. 12	. 12		
			128. 97		. 03	
				+ . 18	— . 14	= + . 04 ÷ 5 = . 008

Weight of single pieces, &c.—Continued.

SILVER—Continued.

Mint.	Denomination of coin.	Weight.		Deviation from legal weight.		Remarks.
		Legal.	Actual.	Heavy.	Light.	
Philadelphia.....	Dimes	<i>Grains.</i>	<i>Grains.</i>	<i>Grains.</i>	<i>Grains.</i>	
		38.58	38.41	.....	.17	
			38.59	.01	.....
			38.92	.34	.....
			38.97	.39	.....
			38.51	.....	.07	
			38.26	.....	.32	
			38.18	.....	.40	
			38.66	.08	.....
			38.79	.21	.....
			38.89	.31	.....
				+1.34	— .96	= + .38 ÷ 10 = + .038

GOLD.

San Francisco	Double-eagle....	516	515.94	.....	.06	
			515.87	.....	.13	
			516.07	.07	.....
			516.01	.01	.....
			515.94	.....	.06	
			515.96	.....	.04	
			516.07	.07	.....
			515.88	.....	.12	
	516.03	.03	.....		
			+ .18	- .41	= -23 ÷ 9 = -.025 +	
	Eagle.....	258	257.92	.....	.08	
			258	.....		Standard.
				- .08	= -.08 ÷ 2 = -.04	
	Half-eagle	129	129.02	.02	.....
128.86			.....	.14		
129.01			.01	.....	
			+ .03	- .14	= -.11 ÷ 3 = -.033 +	
Double-eagle....	516	516.09	.09	.....	
		516.01	.01	.....	
		516.04	.04	.....	
		516	.....		Standard.	
		515.75	.....	.25		
		515.98	.....	.02		
		516.11	.11	.....	
		+ .25	- .27	= -.02 ÷ 7 = -.0028 +		

SILVER.

San Francisco	Trade-dollar	420	419.84	.....	.16	
			420.33	.33	.....
			419.32	.....	.68	
			420.53	.53	.....
			419.97	.....	.03	
			419.57	.....	.43	
			419.95	.....	.05	
			419.95	.....	.05	
			419.41	.....	.59	
				+ .86	— 4.99	— 1.13 ÷ 9 — .125
	Half-dollar	192.9	193.51	.61	.....
			192.70	.....	.20	
			193.26	.36	.....
			193.46	.56	.....
			193.42	.52	.....
			192.38	.....	.52	
			192.80	.....	.10	
				+ 2.05	— .82	1.23 ÷ 7 — .175

Weight of single pieces, &c.—Continued.

SILVER—Continued.

Mint.	Denomination of coin.	Weight.		Deviation from legal weight.		Remarks.
		Legal.	Actual.	Heavy.	Light.	
San Francisco	Quarter-dollar ..	<i>Grains.</i> 96.45	<i>Grains.</i> 96.46	<i>Grains.</i> .01	<i>Grains.</i>	
			96.50	.05	.....
			96.57	.12	.....
				+ .18	.....
	Dime	38.58	38.62	.04	$= + .18 \div 3 = + .06$
			38.90	.32	.....
				+ .36	.....
	Trade dollar	420	420.55	.55	$= + .36 \div 2 = + .18$
			419.40	.....	.60
			419.38	.....	.62
			420.04	.04	.....
			420.43	.43	.....
			420.44	.44	.....
			419.93	.....	.07
			419.65	.....	.35
			419.78	.....	.22
				+1.46	—1.86	
						$= - .40 \div 9 = - .044 +$

GOLD.

Carson.....	Double-eagle....	516	516.04	.04	
			515.99	.....	.01
			516.27	.27	.....
				+ .31	— .01	
	Half-eagle	129	128.9208	$= + .30 \div 3 = + .10$
			129.14	.14	.....
				+ .14	— .08	
	Double-eagle....	516	516.25	.25	$= + .06 \div 2 = + .03$
			516.21	.21	.....
			515.75	.....	.25
			516.05	.05	.....
	Eagle.....	258	Standard.
			258	.....	.....
			128.96	.....	.04
			128.97	.....	.03
	Half-eagle	129	
			
					— .07	$= - .07 \div 2 = - .035$

SILVER.

Carson.....	Trade-dollar	420	419.7723	
			420.56	.56	.....
			420.04	.04	.....
			420.01	.01	.....
	Dime	38.58	37.97	— .61	$= + .35 \div 4 = + .095$
			
			193.16	+ .26	.....
			
	Trade-dollar	420	420.16	.16	Standard.
			419.34	.....	.66
			419.89	.....	.11
			420	.....	.....
	Half-eagle	129	420.31	.31	
			
				+ .47	— .77	$= - .30 \div 5 = - .06$

From the foregoing tables it will appear that the weight of the single pieces is in all cases within the limits of legal tolerance, and in general very near the standard weight and that the aggregate weight of the selected piles or parcels confirms the conclusion that the conformity of the coinage to the legal standard of weight is entirely satisfactory.

J. E. HILGARD,
E. B. ELLIOTT,
GEO. W. CHILDS,
JOSEPH PANCOAST,
GEORGE HEWSTON,
HERBERT GRAY TORREY,
Committee on Weighing.

REPORT OF COMMITTEE ON ASSAYING.

The committee on assay beg leave to report that the results of the assay which have been superintended by them of coins reserved during the year 1874 from the mints at Philadelphia, San Francisco, and Carson, melted in bulk and individual pieces, have exhibited a satisfactory conformity with the law, as will be seen by the annexed tables, reflecting credit upon the officers of the assay-departments of the three institutions.

The first table annexed shows the result in detail. It will be remarked that the extreme range of fineness was, for gold, from 898.8 to 900.2; for silver, from 899.8 to 901.0.

The committee feeling an interest to know the amount of loss sustained by standard bullion in melting, have taken note of the weight of coin before and after that operation.

Mint.	Gold.		Silver.	
	Denomination.	Fineness.	Denomination.	Fineness.
Philadelphia.....	Mass	900.1	Mass	999.0
Do.....	Eagle	900.0	Trade-dollar	901.2
Do.....	.....	.....	Half-dollar	901.0
San Francisco.....	Mass	900.2	Mass	899.8
Do.....	do	900.2	do	900.0
Do.....	Double-eagle	900.2	Trade-dollar	900.2
Do.....	do	899.8	do	901.0
Do.....	.....	.....	do	901.0
Do.....	.....	.....	Quarter-dollar	901.0
Carson.....	Mass	899.9	Mass	900.8
Do.....	do	899.9	do	901.0
Do.....	Eagle	899.8	Trade-dollar	900.8
Do.....	do	900.1	do	901.0
Do.....	.....	.....	Half-dollar	900.4
Do.....	.....	.....	do	900.2

Table of lots of coin melted for assay, showing the loss in melting.

Number.	Gold.				Silver.			
	Weight before melting.	Weight after melting.	Loss in ounces.	Ratio of loss.	Weight before melting	Weight after melting.	Loss in ounces.	Ratio of loss.
	<i>Ounces.</i>	<i>Ounces.</i>			<i>Ounces.</i>	<i>Ounces.</i>		
1....	55.6525	55.620	.032	.00057	49.130	49.050	.080	.00162
2....	54.555	54.520	.035	.00064	50.010	50.010	.000	.....
3....	54.820	54.780	.040	.00073	51.630	51.580	.050	.00097
4....	56.440	56.390	.050	.00089	51.180	51.060	.120	.00234
5....	39.230	39.140	.090	.00229	52.500	52.400	.100	.00190

No account has been taken, in this examination of the loss in melting, of the amount of metal that may have adhered to the crucibles used.

In addition to the regular duties of the commission on the assay of the coins, they have, in accordance with the suggestions of the Director of the Mint, made examination for the determination of the amount of gold contained in silver coins, and of silver contained in gold coins, with the following results:

Mint.	Gold in silver coins.	No.	Silver in gold coins.
Philadelphia	1 part in 5,000	1	3 parts silver.
San Francisco	1 part in 16,333	2	Scarcely a trace.
Do	1 part in 12,500	3	Do.
Carson	1 part in 16,333	4	Do.
Do	1 part in 12,500	5	Do.

No. 1 of the gold coins shows 3 parts silver; that is, gold 900, copper 97, silver 3 = 1,000. Nos. 2, 3, 4, and 5 had scarcely a trace of silver; and in these cases the usual tenacity of gold with copper may have operated to protect the silver from the action of the nitric acid.

The experiment proves, however, that the silver in our gold coin is almost inappreciable, as might be expected from the fact that most of it is made from gold 997½ to 998 fine, and therefore but little margin for silver is left.

R. E. ROGERS,
THOS. E. JENKINS,
EDWARD W. MORLEY,
JACOB F. L. SCHIRMER,
JOHN J. KNOX,
J. M. MERRICK,
Committee on Assaying.

Result of test assays of United States Coin taken from certain deliveries in each month during the fiscal year ended June 30, 1875.

GOLD.

Coinage, Mint United States, Philadelphia.

Denomination.	Date.	Fineness.	Silver contained.
Double-eagle	July, 1874	900	None.
Do	Sept., 1874	900.1	Do.
Do	Oct., 1874	900.	Do.
Do	Nov., 1874	900.3	5
Do	Mar., 1875	899.9	10
Do	April, 1875	900	9
Do	May, 1875	900.5	9
Do	June, 1875	899.1	9
Average		899.9	

Coinage, Mint United States, San Francisco.

Denomination.	Date.	Fineness.	Silver contained.
Double-eagle	July, 1874	900.3	None.
Do	Aug., 1874	900.2	Do.
Do	Sept., 1874	900	Do.
Do	Oct., 1874	900.1	Do.
Do	Dec., 1874	900	Do.
Do	Jan., 1875	900.2	Do.
Do	Feb., 1875	901.1	Do.
Do	Mar., 1875	900	Do.
Do	April, 1875	900.6	Do.
Do	May, 1875	900.1	Do.
Do	June, 1875	900	Do.
Eagle	July, 1874	900.2	Do.
Do	Oct., 1874	899.7	Do.
Half-eagle	July, 1874	900.3	Do.
Do	Oct., 1874	900.2	Do.
Do	Mar., 1875	899.8	Do.
Average		900.1	

Coinage, Mint United States, Carson.

Denomination.	Date.	Fineness.	Silver contained.
Double-eagle	July, 1874	899.7	None.
Do	Aug., 1874	900	Do.
Do	Sept., 1874	900	Do.
Do	Oct., 1874	898.7	Do.
Do	Nov., 1874	899.7	Do.
Do	Dec., 1874	899.7	Do.
Do	Jan., 1875	899.8	Do.
Do	Feb., 1875	900	Do.
Do	Mar., 1875	899.8	Do.
Do	April, 1875	899.9	Do.
Do	May, 1875	900.1	Do.
Do	June, 1875	899.7	Do.
Eagle	Sept., 1874	900	Do.
Do	Nov., 1874	900	Do.
Do	Dec., 1874	899.7	Do.
Do	Feb., 1875	900	Do.
Half-eagle	Sept., 1874	899.6	Do.
Do	Nov., 1874	899.7	Do.
Do	Dec., 1874	899.7	Do.
Do	Feb., 1875	900	Do.
Average		899.7	

SILVER.

Coinage, Mint United States, Philadelphia.

Denomination.	Date.	Fineness.	Gold contained.
Trade-dollar	July, 1874	898.8	None.
Do	Aug., 1874	899.9	Do.
Do	Sept., 1874	900.6	Do.
Do	Sept., 1874	900.5	Do.
Do	May, 1875	901.3	Trace.
Half-dollar	Nov., 1874	900.6	.2
Do	Dec., 1874	901.5	Trace.
Do	Jan., 1875	900	.1
Do	Feb., 1875	899.6	.2
Do	Mar., 1875	899.4	.1
Do	April, 1875	899.4	.1
Do	May, 1875	901.3	Trace.
Do	June, 1875	900.4	.2
Quarter-dollar	Oct., 1874	900.6	None.
Do	Feb., 1875	900	.1
Do	Mar., 1875	900.4	.1
Do	May, 1875	901.2	Trace.
Do	June, 1875	899.4	.2
Twenty-cents	June, 1875	899.5	.2
Dime	Jan., 1875	900	.1
Do	Feb., 1875	900	.2
Do	Mar., 1875	900	.2
Do	May, 1875	900	Trace.
Do	June, 1875	900.3	None.
Average		900.1	

Coinage, Mint United States, San Francisco.

Denomination.	Date.	Fineness.	Gold contained.
Trade-dollar	July, 1874	899.2	None.
Do	Aug., 1874	899	Do.
Do	Sept., 1874	899.2	Do.
Do	Oct., 1874	900.6	Do.
Do	Nov., 1874	900	Do.
Do	Dec., 1874	900.3	Do.
Do	Jan., 1875	899.9	Do.
Do	Feb., 1875	900.1	Do.
Do	Mar., 1875	900.6	Do.
Do	April, 1875	900.2	Do.
Do	May, 1875	900.1	Do.
Do	June, 1875	901.7	Do.
Half dollar	July, 1874	902	Do.
Do	Aug., 1874	901.6	Do.
Do	Sept., 1874	901.3	Do.
Do	Mar., 1875	901.2	Do.
Do	April, 1875	899.7	Do.
Do	June, 1875	900.8	.1
Quarter-dollar	May, 1875	901	None.
Do	June, 1875	900.3	Trace.
Twenty-cents	June, 1875	902.2	None.
Dime	Feb., 1875	899.9	Do.
Do	Mar., 1875	900.8	Do.
Do	April, 1875	900.2	Do.
Do	June, 1875	899.7	Do.
Average		900.4	

Coinage, Mint United States, Carson.

Denomination.	Date.	Fineness.	Gold contained.
Trade-dollar	July, 1874	901.8	None.
Do	Aug., 1874	902	Do.
Do	Sept., 1874	901	Do.
Do	Oct., 1874	902.5	Do.
Do	Nov., 1874	902.2	Do.
Do	Dec., 1874	899.1	Do.
Do	Jan., 1875	900.3	Do.
Do	Feb., 1875	899.8	Do.
Do	April, 1875	900.4	Do.
Do	May, 1875	900.1	Do.
Do	June, 1875	899.7	Do.
Half-dollar	Nov., 1874	900.6	Do.
Do	Dec., 1874	899.9	Do.
Do	Mar., 1875	899.5	Do.
Do	April, 1875	900.8	Do.
Do	June, 1875	899.9	Do.
Quarter-dollar	May, 1875	901	Do.
Do	June, 1875	900.1	Do.
Dime	Mar., 1875	899.5	Do.
Do	June, 1875	899.4	Do.
Average		900.4	

CIRCULAR EXHIBITING THE VALUES IN UNITED STATES MONEY OF THE PURE GOLD OR SILVER REPRESENTING RESPECTIVELY THE MONETARY UNITS AND STANDARD COINS OF FOREIGN COUNTRIES, IN COMPLIANCE WITH THE ACT OF MARCH 3, 1873.

TREASURY DEPARTMENT,
Washington, D. C., January 1, 1875.

The first section of the act of March 3, 1873, provides "that the value of foreign coin, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the values of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the first day of January by the Secretary of the Treasury."

The estimates of values contained in the following table has been made by the Director of the Mint, and is hereby proclaimed in compliance with the above-stated provisions of law :

Country.	Monetary unit.	Standard.	Value in U. S. money.	Standard coins.
Argentine Republic.....	Peso fuerte	Gold	\$1.00	None.
Austria.....	Florin	Silver.....	.45, 3	Florin.
Belgium.....	Franc.....	Gold and silver .....	.19, 3	5, 10, and 20 francs.
Bolivia.....	Dollar	Gold and silver .....	.96, 5	Escudo, $\frac{1}{2}$ bolivar and bolivar.
Brazil.....	Milreis of 1,000 reis.....	Gold.....	.54, 5	None.
British Possessions in North America.....	Dollar	Gold.....	1.00	
Bogota.....	Peso	Gold.....	.91, 2	
Central America.....	Dollar	Silver.....	.91, 8	Dollar.
Chili.....	Peso	Gold.....	.91, 2	Condor, doubloon, and Escudo.
Cuba.....	Peso	Gold.....	.92, 5	
Denmark.....	Crown	Gold.....	.26, 8	10 and 20 crowns.
Ecuador.....	Dollar	Silver.....	.91, 8	Dollar.
Egypt.....	Pound of 100 piasters	Gold.....	4.97, 4	5, 10, 25, and 50 piasters.
France.....	Franc	Gold and silver.....	.19, 3	5, 10, and 20 francs.
Great Britain.....	Pound sterling.....	Gold.....	4.86, 6 $\frac{1}{2}$	$\frac{1}{2}$ sovereign and sovereign.
Greece.....	Drachma	Gold and silver.....	.19, 3	5, 10, 20, 50, and 100 drachmas.
German Empire.....	Mark	Gold.....	.23, 8	5, 10, and 20 marks.
Haiti.....	Dollar	Silver.....	.95, 2	
Japan.....	Yen.....	Gold.....	.99, 7	1, 2, 5, 10, and 20 yen.
India.....	Rupce of 16 annas	Silver.....	.43, 6	
Italy.....	Lira	Gold and silver.....	.19, 3	5, 10, 20, 50, and 100 lire.
Liberia.....	Dollar	Gold.....	1.00	
Mexico.....	Dollar	Silver.....	.99, 8	Peso or dollar, 5, 10, 25, and 50 centavo.
Netherlands.....	Florin	Silver.....	.38, 5	$\frac{1}{2}$ florin, florin, and 2 $\frac{1}{2}$ florins.
Norway.....	Crown	Gold.....	.26, 8	10 and 20 crowns.
Paraguay.....	Peso	Gold.....	1.00	
Peru.....	Dollar	Silver.....	.91, 8	
Porto Rico.....	Peso	Gold.....	.92, 5	
Portugal.....	Milreis of 1,000 reis.....	Gold.....	1.08, 4	2, 5, and 10 milreis.
Russia.....	Ruble of 100 copecks.....	Silver.....	.73, 4	$\frac{1}{4}$, $\frac{1}{2}$, and 1 ruble.
Sandwich Islands.....	Dollar	Gold.....	1.00	
Spain.....	Peseta of 100 centimes	Gold and silver.....	.19, 3	5, 10, 20, 50, and 100 pesetas.
Sweden.....	Crown	Gold.....	.26, 8	10 and 20 crowns.
Switzerland.....	Franc	Gold and silver.....	.19, 3	5, 10, and 20 francs.
Tripoli.....	Mahbub of 20 piasters	Silver.....	.82, 9	
Tunis.....	Piaster of 16 caroubs.....	Silver.....	.11, 8	
Turkey.....	Piaster	Gold.....	.04, 3	25, 50, 100, 250, and 500 piasters.
United States of Colombia.....	Peso	Silver.....	.91, 8	
Uruguay.....	Patacon.....	Gold.....	.94, 9	

B. H. BRISTOW,
Secretary of the Treasury.

Statement exhibiting the average weight, fineness, and value of foreign coins, as determined by United States Mint assays.

EXPLANATORY REMARKS.

1. The weight is expressed in fractions of an ounce troy, agreeing with the terms used in the United States mints.

If it is desired to have the weight of any piece in grains, regard the thousandths of an ounce as integers, take their half, from which deduct four per cent. of that half, and the remainder will be grains.

2. The fineness is expressed in thousandth parts; *i. e.*, so many parts of pure gold or silver in 1,000 parts of the coin. The old carat system is generally abandoned, (except for jewelry,) but it may be worth while to say that 41 $\frac{3}{8}$ thousandths equal one carat.

3. The valuation of gold is at the legal rate of 25.8 grains, 900 fine, being equal to one dollar: or \$20.672 (nearly) per ounce of fine gold.

4. The valuation of silver is at the trade-dollar rate, viz: 420 grains, 900 fine, to the dollar.

5. These tables generally give the one principal coin of each country, from which the other sizes are easily deduced. Thus when the franc system is used, there are generally gold pieces of 40, 20, 10, and 5 francs, all in due proportion. But in silver, the fractional coins are very often of less intrinsic value than the normal coin, proportionally. These are seldom exported.

GOLD COINS.

Country.	Denomination.	Gross weight.	Fineness.	Standard weight.	Value in United States money.
		<i>Ounces.</i>	<i>Thous'ths.</i>	<i>Ounces.</i>	<i>Dolls. cts. mills.</i>
Austria	Fourfold ducat	0.448	986	0.4968	9 13 1
Do.	Souverain, (no longer coined)	0.363	900	0.363	6 75 4
Do.	4 florins, (new)	0.104	900	0.104	1 93 5
Do.	Ducat	0.1119	985.5	0.1225	2 27 9
Belgium	25 francs	0.254	899	0.2537	4 72 0
Brazil	29 milreis	0.575	916.5	0.5855	10 89 3
Central America	2 escudos	0.299	853.5	0.1982	3 68 7
Do.	4 reals	0.027	875	0.0262	0 48 7
Chili	10 pesos, (dollars)	0.491	898	0.4899	9 11 4
Colombia and South America generally.	Old doubloon *	0.867	870	0.8381	15 59 2
Colombia	20 pesos, "Bogota"	1.033	887	1.018	18 94 0
Do.	20 pesos, "Medellin"	1.034	891.5	1.0242	19 05 5
Do.	20 pesos, "Popayan"	1.029	891.5	1.0192	18 96 2
Costa Rica	10 pesos	0.476	858.5	0.454	8 44 7
Denmark	20 crown	0.288	900	0.288	5 35 8
Do.	Old ten-thaler	0.427	895	0.4246	7 89 8
Egypt	Bedidlik, (100 piasters)	0.275	875	0.2673	4 97 3
England	Pound, or sovereign, (new) †	0.2568	916.5	0.2615	4 86 5
Do.	Pound, average, (worn)	0.2563	916.5	0.2609	4 85 4
France	20-franc	0.207	899	0.2067	3 84 5
German Empire	New 20 marks	0.256	900	0.256	4 76 3
Do.	Old ten thaler, (Prussian)	0.427	903	0.4284	7 97 0
Greece	20 drachms	0.185	900	0.185	3 44 2
India, (British)	Mohur, or 15 rupees ‡	0.375	916.5	0.3818	7 10 3
Italy	20 lire	0.207	899	0.2067	3 84 5
Japan	20 yen	1.072	900	1.072	19 94 2
Mexico	Doubloon	0.86735	870.25	0.8386	15 60 0
Do.	20 pesos, (empire)	1.086	875	1.0558	19 64 2
Do.	20 pesos, (republic, new)	1.084	873	1.0514	19 56 1
Netherlands	10 gilders	0.215	899	0.2147	3 99 3
New Granada	10 pesos, (dollars)	0.525	891.5	0.520	9 67 4
Norway	20 crowns	0.288	900	0.288	5 35 8
Peru	20 soles	1.0357	898.75	1.034	19 23 7
Portugal	Coroa, (crown)	0.308	912	0.312	5 80 5
Russia	5 rubles	0.210	916	0.2137	3 97 5
Spain	100 reals	0.268	896.5	0.2668	4 96 3
Do.	80 reals	0.215	869	0.207	3 86 2
Do.	10 escudos	0.27045	897	0.2695	5 01 4
Sweden	Ducat	0.111	975	0.1202	2 23 6
Do.	Carolin, (10 francs)	0.104	900	0.104	1 93 4
Do.	New 20 crowns, (krone)	0.288	900	0.288	5 35 8
Tunis	25 piasters	0.161	909	0.161	2 99 5
Turkey	100 piasters	0.231	915	0.2348	4 36 8

* The *doubloon* (doblón, or more properly *onza*, though not really an ounce Spanish) is now generally discontinued, and is seldom seen here. These figures answer as well for the doubloon of Peru, Chili, Bolivia, &c., and therefore this item stands for all. Popayan pieces were rather inferior.

† The sovereigns coined at Melbourne and Sydney, in Australia, and distinguished only by the mint-marks M and S, are the same as those of the London mint. Sovereigns generally are up to the legal fineness, 916½, (or 22 carats,) but we report to the half in all cases.

‡ The last coinage of *mohurs* was in 1862.

SILVER COINS.

Country.	Denomination.	Gross weight.	Fineness.	Standard weight.	Value in United States money.
		<i>Ounces.</i>	<i>Thous'ths.</i>	<i>Ounces.</i>	<i>Dolls. cts. mills.</i>
Austria	Old rix-dollar	0.902	833	0.8348	0 95 4
Do.....	Old scudo crown	0.836	902	0.8378	0 95 7
Do.....	Florin, before 1858	0.451	833	0.4174	0 47 7
Do.....	New florin	0.397	900	0.397	0 45 3
Do.....	New Union dollar	0.596	900	0.596	0 68 1
Do.....	Maria Theresa dollar, 1780	0.895	838	0.8334	0 95 2
Belgium.....	5 francs	0.803	897	0.8003	0 91 5
Do.....	2 francs	0.320	835	0.2968	0 33 9
Bolivia.....	New dollar	0.801	900	0.801	0 91 5
Brazil.....	Double milreis	0.8187	917.75	0.8348	0 95 4
Canada.....	20 cents	0.150	925	0.1541	0 17 6
Do.....	25 cents	0.1875	925	0.1927	0 22 0
Central America	Dollar	0.866	850	0.8178	0 93 5
Chili.....	Old dollar	0.864	908	0.8716	0 99 6
Do.....	New dollar	0.801	900.5	0.8014	0 91 6
China.....	Dollar, (English mint)	0.866	901	0.8669	0 99 1
Do.....	10 cents	0.087	901	0.08709	0 09 9
Denmark.....	2 rigsdaler	0.927	877	0.90331	1 03 2
Egypt.....	Piaster, (new)	0.040	755	0.0335	0 03 8
England.....	Shilling, (new)	0.1825	924.5	0.1874	0 21 4
Do.....	Shilling, (average)	0.178	925	0.1829	0 20 9
Do.....	Florin	0.365	925	0.3751	0 42 9
France.....	5 franc	0.8018	900	0.8018	0 91 6
Do.....	2 franc	0.320	835	0.2968	0 33 9
North German states	Thaler, before 1857	0.712	750	0.5933	0 67 8
Do.....	Thaler, (new)	0.595	900	0.595	0 68 0
South German states	Florin	0.340	900	0.340	0 38 9
German Empire.....	5 marks, (new)	0.804	900	0.804	0 91 9
Greece.....	5 drachms	0.719	900	0.7198	0 82 2
Hindustan.....	Rupce	0.374	916.5	0.380	0 43 4
Italy.....	5 lire	0.802	900	0.802	0 91 7
Do.....	Lira	0.160	835	0.1484	0 16 9
Japan.....	1 yen	0.8367	900	0.8667	0 99 1
Do.....	50 sen	0.402	800	0.3573	0 40 8
Mexico.....	Dollar	0.870	903	0.8729	0 99 8
Do.....	Half-dollar	0.435	898.5	0.4343	0 49 6
Do.....	Pesto of Maximilian	0.861	902.5	0.8633	0 98 7
Netherlands.....	2½ gilders	0.804	944	0.8433	0 96 4
Norway.....	Specie daler	0.927	877	0.9033	1 03 2
New Granada.....	Dollar of 1857	0.803	896	0.7994	0 91 1
Peru.....	Old dollar	0.866	901	0.8669	0 99 0
Do.....	Dollar of 1858	0.766	900	0.766	0 87 5
Do.....	Half-dollar of 1835-'38	0.433	650	0.3127	0 35 7
Do.....	Sol	0.802	900	0.802	0 91 6
Portugal.....	500 reis	0.400	912	0.4053	0 46 3
Roumania.....	2 lei, (francs,) new	0.322	835	0.2987	0 34 1
Russia.....	Ruble	0.667	875	0.6484	0 74 1
Spain.....	5 pesetas, (dollars)	0.800	900	0.800	0 91 4
Do.....	Peseta, (pistareen)	0.160	835	0.1484	0 16 9
Sweden.....	Riksdaler	0.273	750	0.2275	0 26 0
Switzerland.....	2 francs	0.320	835	0.2969	0 33 9
Tunis.....	5 piasters	0.511	898.5	0.5101	0 58 3
Turkey.....	20 piasters	0.770	830	0.7101	0 81 1

Imports and exports of gold and silver during the fiscal year ended June 30, 1875, made up from monthly returns of Bureau of Statistics.

IMPORTS.

Year.	Bullion.		Coin.		Total bullion.	Total coin.	Total bullion and coin.
	Gold.	Silver.	Gold.	Silver.			
1874.							
July	\$78,323	\$9,102	\$524,501	\$684,216			
August	101,394	21,066	901,237	476,851			
September	216,263	4,345	968,828	216,856			
October	170,860	88,057	569,061	382,106			
November	306,496	14,919	330,598	458,359			
December	162,646	142,277	1,341,046	458,149			
1875.							
January	75,442	131,964	677,011	147,099			
February	124,646	155,000	1,063,778	651,249			
March	88,673	174,255	3,060,343	433,993			
April	80,241	356,380	1,412,308	612,549			
May	101,979	106,642	595,375	406,528			
June	74,675	91,707	671,069	980,215			
Total	1,581,638	1,295,754	12,115,155	5,908,170	\$2,877,392	\$18,023,325	\$20,900,717

EXPORTS.

(Gold and silver produced in the United States.)

Year.	Bullion.		Coin.		Total bullion.	Total coin.	Total bullion and coin.
	Gold.	Silver.	Gold.	Silver.			
1874.							
July	\$427,560	\$2,075,879	\$975,718	\$298,209			
August	229,729	1,098,295	5,605,775	383,726			
September	292,210	1,792,464	256,645	362,272			
October	15,485	1,507,550	481,857	499,464			
November	141,992	1,391,268	3,259,617	218,977			
December	229,793	1,497,395	10,871,438	228,423			
1875.							
January	220,852	1,344,493	8,560,536	786,584			
February	116,231	1,908,456	2,045,048	778,053			
March	64,481	872,184	991,028	172,080			
April	11,700	612,333	4,054,298	501,172			
May	305,542	1,358,250	6,758,392	410,354			
June	178,200	1,829,347	15,479,418	476,356			
Total	2,233,775	17,197,914	59,309,770	5,115,670	\$19,431,689	\$64,425,440	\$83,857,129

RE-EXPORTS.

(Foreign gold and silver exported from the United States.)

Year.	Bullion.		Coin.		Total bullion.	Total coin.	Total bullion and coin.
	Gold.	Silver.	Gold.	Silver.			
1874.							
July			\$117,965	\$181,714			
August		\$10,955	399,198	257,395			
September			8,037	156,455			
October			42,713	174,503			
November			71,443	168,054			
December	\$1,560		71,556	233,567			
1875.							
January			52,029	177,668			
February	956	880	388,294	321,293			
March			1,980,412	83,831			
April			1,362,872	225,158			
May	1,240		792,450	498,900			
June			146,767	347,208			
Total	3,696	11,835	5,433,736	2,825,746	\$15,531	\$8,259,482	\$8,275,013

Imports and exports of gold and silver during the fiscal years ended June 30, 1873, and June 30, 1874.

Description.	IMPORTS.		EXPORTS.		RE-EXPORTS.	
	Fiscal year 1872-'73.	Fiscal year 1873-'74.	Fiscal year 1872-'73.	Fiscal year 1873-'74.	Fiscal year 1872-'73.	Fiscal year 1873-'74.
Gold bullion	\$1, 542, 593	\$1. 621, 111	\$8, 810, 175	\$3, 878, 543	.....	.....
Silver bullion	471, 715	831, 241	27, 759, 066	27, 153, 496	\$85, 795	\$25, 000
Total	2, 014, 308	2, 452, 352	36, 569, 241	31, 032, 039	85, 795	25, 000
Gold coin	7, 203, 554	17, 888, 468	35, 661, 863	24, 112, 229	384, 677	1, 396, 934
Silver coin	12, 022, 575	8, 114, 086	1, 674, 442	4, 555, 418	10, 232, 556	5, 508, 785
Total	19, 226, 129	26, 002, 554	37, 336, 305	28, 667, 647	10, 617, 233	6, 905, 719
Total bullion and coin.	21, 240, 437	28, 454, 906	73, 905, 546	59, 699, 686	10, 703, 028	6, 930, 719

APPENDIX No. 2.

Foreign coinage laws, coinages, changes in monetary systems.

AUSTRIA.

[Translation.]

Imperial decree of September 19, 1857, fixing regulations for the entire Austrian Empire in regard to the coinage in accordance with the mint conference at Venice, January 24, 1857.

FRANCIS JOSEPH, BY THE GRACE OF GOD EMPEROR OF AUSTRIA.

With the intention of regulating the coinage of our empire in accordance with the imperial decree (page XXIII, article No. 101) of 1857, after the deliberation of our ministers and senate, we have fixed the following regulations for the entire empire :

ARTICLE 1. The legal currency and that established in common with the states of the German Confederation shall be coined in silver; small coin, however, in silver or copper.

Gold will be coined for commercial purposes.

ARTICLE 2. In all coinage, including that of the year 1857, the mint pound of five hundred grams will serve as a basis for future coinage. This pound will be used exclusively for mint weight, and for this purpose divided into a thousand parts. The division is made by decimal gradation; the tenth part of the same receives the name of grain.

ARTICLE 3. The fineness of all coins is expressed in thousandths. To determine the fineness of silver coins, the assay will be made by the humid process.

The fineness of gold coin will be determined by the method adopted at the mint conference.

ARTICLE 4. The legal standard currency is founded on the 45 gulden. From a pound of fine silver are coined 45 guldens.

The gulden is the Austrian standard, and is divided into hundred parts; each hundred into ten parts. The coins issued on this standard will be called "coins of Austrian denomination."

ARTICLE 5. The coins issued under the following denominations are as follows: In one pound of fine silver—

- (a) of 2 gulden pieces..... 22½
- (b) of 1 gulden pieces..... 45
- (c) of ½ gulden pieces..... 180

In coins of the confederation :

- (d) 2 union thaler piece, (3 guldens,) 15.
- (e) 1 union thaler piece, (1½ guldens,) 30 from a pound of fine silver. The coins (a, b, d, e) above named contain $\frac{900}{1000}$ parts silver and $\frac{100}{1000}$ copper.
- (a) 20½ pieces of 2 guldens weigh one pound.
- (b) 40½ pieces of 1 gulden weigh one pound.
- (c) 13½ pieces of 2 union thalers, (3 guldens,) one pound.
- (d) 27 pieces of 1 union thaler, (1½ guldens,) one pound.

The ½ of a gulden piece (c) contains $\frac{520}{1000}$ parts of fine silver, and $\frac{480}{1000}$ parts of copper; therefore 93½ of ½ gulden pieces weigh one pound.

The diameter is for the piece—

	Millimeters.
(a) of 2 guildens	36
(b) of 1 gulden	29
(c) of $\frac{1}{2}$ gulden	23
(d) of 2 union thaler, (3 guildens)	41
(e) of 1 union thaler, ($1\frac{1}{2}$ guildens)	33

ARTICLE 6. In coining these moneys neither their fineness nor their weight shall be diminished to provide for the so-called "Remedy of the mint."

As absolute accuracy is not always possible, another variation will be given for "over or short."

- The 2-gulden piece must not exceed in fineness $\frac{3}{1000}$, or in weight $\frac{3}{1000}$.
- The 1-gulden piece must not exceed in fineness $\frac{3}{1000}$, or in weight $\frac{4}{1000}$.
- The $\frac{1}{2}$ -gulden piece must not exceed in fineness $\frac{5}{1000}$, or in weight $\frac{4}{1000}$.
- The 2-union-thaler (3 gulden) piece must not exceed in fineness $\frac{3}{1000}$, or in weight $\frac{3}{1000}$.
- The 1-union-thaler ($1\frac{1}{2}$ gulden) piece must not exceed in fineness $\frac{3}{1000}$, or in weight $\frac{4}{1000}$.

ARTICLE 7. The Austrian currency to be coined according to article 5 shall bear on the obverse my effigy, with the inscription: "Franz. Jos. I. D. G. Austriac Imperator." On the reverse the imperial eagle, under which the value, 1 Fl., 2 Fl., or $\frac{1}{2}$ Fl., shall be written, with the inscription, "Hngg. Boh. Lomb. et Ven. Gal. Lod. Ill. Rex. A. A.," and also the year of coinage. The rim shall be smooth, and have the motto "Viribus Unitis."

ARTICLE 8. The obverse of the Union coin shall bear my effigy, with the inscription: "Franz. Joseph. I. V. G. G. Kaiser v. Oesterreich." The reverse with the imperial eagle, under which the words, (with the fineness:) "Zwei Vereinsthaler, XV. Ein Pfund fein." And for the one-thaler coin: "Ein Vereinsthaler, XXX. Ein Pfund fein," as also the year of the coinage.

The rim shall be smooth, and have the motto: "Mit vereinten Kräften," (with united strength.)

ARTICLE 9. The following fractional currency is to be coined: Coins of ten and five hundredths in silver, and coins of three and one hundredths and coins of five thousandths in copper.

ARTICLE 10. Silver currency shall be so coined that 500 pieces of ten ten-hundred parts, and a 1,000 pieces of five hundred parts contain a pound of fine silver. The ten-hundred part pieces are composed of $\frac{500}{1000}$ fine silver and $\frac{500}{1000}$ copper. The 500 part pieces have $\frac{375}{1000}$ of silver and $\frac{625}{1000}$ of copper; hence 250 ten-hundred part pieces and 375 five-hundred part pieces weigh one pound.

The tolerance of silver currency shall not exceed, "over or short," five thousandths in fineness or ten thousandths in weight. The diameter shall be fixed at 18 millimeters for the ten-hundred part piece, and 16 millimeters for the five-hundred part piece.

The obverse shall bear my effigy and the inscription, "Franz. Joseph. I. V. G. G., Kaiser v. Oesterreich." On the reverse the number 10 or 5, with the Austrian crown, and word "Scheidemünze," the date of coinage, surrounded by a branch of laurel and palm. The edge shall be ribbed.

ARTICLE 11. In the coinage of copper currency, one pound of copper shall be coined into one hundred and fifty hundredth part pieces.

The copper currency consists of three hundredth part pieces, one hundredth part pieces, five thousandth part pieces. The diameter is fixed for the three hundredth part pieces, 25 millimeters; one hundredth part pieces, 19 millimeters; five thousandth part pieces, 17 millimeters.

The obverse of the copper currency bears the imperial eagle, with the inscription: "K. K. Oesterreichische Scheidemünze." The reverse contains, in a wreath of oak-leaves, the value of the hundredth parts, 3, 1, or $\frac{1}{10}$, and below it the year of coinage. The rim is smooth.

ARTICLE 12. Currency that has been pierced or otherwise diminished in weight, by causes other than its use, as also counterfeit coins, are not to be received in payment, either in public offices or by individuals.

ARTICLE 13. The following gold coins are to be fabricated:

- 1st. The crown of $\frac{1}{30}$ of a pound fine gold.
- 2d. Half-crown of $\frac{1}{60}$ of a pound fine gold.

ARTICLE 14. The crown and half-crown shall be called union gold coins.

The portion of alloy of the union gold coins shall be fixed at $\frac{900}{1000}$ fine gold and $\frac{100}{1000}$ copper. Therefore 45 crowns and 90 half-crowns will weigh one pound.

The diameter is fixed for the crown at 24 millimeters; half-crown at 20 millimeters.

The obverse shall bear my effigy, with the inscription: "Franz. Joseph. I. V. G. G. Kaiser v. Oesterreich." The reverse, the name of the coin and year of coinage, in an open wreath of oak and laurel over which shall be placed the inscription: "Vereinsmünze," (union coin,) and under the crown, 50 to a pound, and under the half-crown

100 to a pound, fine. The edge smooth, and deeply ent thereon the motto: "Mit Vereinten Kräfte," (with united strength.)

ARTICLE 15. The tolerance, "over or short," for gold coins of the union, coined in accordance with article 6, shall not exceed, if possible, in single pieces, in fineness 2 thousandths and weight $2\frac{1}{2}$ thousandths.

ARTICLE 16. The union gold coin has not the attribute of a fixed silver currency, as a tender of payment; therefore no one is obliged to receive it in payment instead of silver coin. As to its acceptance at the state banks, the minister of finance has been authorized to issue his orders on that subject, which will be found in the mint regulations of January 24, 1857.

ARTICLE 17. The union gold coin will only be looked upon as full weight in which the original weight of $\frac{1}{45}$ or $\frac{1}{90}$ of a pound exists, with the fixed digression of weight of $2\frac{1}{2}$ thousandths, (mint-allowance.) It is presumed that lightness of weight is only caused by usage.

Union gold coins that differ more than $2\frac{1}{2}$ thousandths from the standard weight shall not be allowed to issue from our government offices, or such banks or offices as exist under protection of the government, but shall be returned to the mint to be remelted.

In accepting such light pieces, the government offices will deduct for every $\frac{1}{90}$ of a thousandth part of a pound that the piece weighs less than the $\frac{1}{45}$ or $\frac{1}{90}$ of a pound, a corresponding value in amount paid to redeem them, and also $\frac{1}{2}$ per cent. deducted for the cost of coinage.

Union gold coins which differ more than 5 thousandths from the original weight of $\frac{1}{45}$ or $\frac{1}{90}$ of a pound will, whenever they are presented at the exchange, either be accepted at the value of the gold they contain, with deduction of $\frac{1}{2}$ per cent. for recoinage, or returned to the owner as unfit for circulation by being cut or defaced.

ARTICLE 18. To facilitate calculation in crowns, the "*Krone*" is divided into ten parts, called *crown-tenths*, and into an additional decimal division.

ARTICLE 19. The so-called *Levantine thaler*, coined with effigy of the Empress Maria Theresa, of cherished memory, the then reigning sovereign, with date 1780, an old coinage, shall be coined for commercial currency; 12 thalers are coined from 1 Vienna mark, (0.561288 of a pound of fine silver,) with a fineness of 13 ounces 6 grams, $\frac{833\frac{1}{2}}{1000}$.

ARTICLE 20. The Austrian ducat, of which hitherto $81\frac{189}{352}$ pieces were coined from a Vienna mark, (0.561288 of a pound of fine gold,) with a fineness of 23 carats 8 grams, $\frac{986\frac{1}{2}}{1000}$, shall still be coined for commercial purposes.

ARTICLE 21. All coins fabricated in accordance with this decree, with exception only of the Levantine thaler, shall be stamped in virole, and bordered on both sides with flat rays; within them a row of pearls, close one to the other. All coins shall bear the sign of the mint where coined, which are the letters *A*, for Vienna; *B*, for Kremnitz; *E*, for Karlsburg; *M*, for Milan; *V*, for Venice.

ARTICLE 22. From the commencement of November, 1857, coins other than those adopted by this law shall no longer be coined. Nevertheless, the medals or coins mentioned in articles 5 and 13, to commemorate historical events, may be issued from time to time.

ARTICLE 23. The hitherto lawful currency shall remain in use until we issue further decree in relation to its withdrawal. The above-named coins are to remain in circulation until further decree is issued by the mint conference regarding them.

ARTICLE 24. The execution of the following decree is committed to the minister of finance.

Made at my castle of Luxemburg, September 9, 1857, in the ninth year of my reign.
FRANZ JOSEPH.

GRAF BUCK SCHAUENSTEIN.
FRIEDRICH V. BRUCK.

Imperial decree of April 27, 1858, fixing regulations for the whole extent of the Austrian Empire in regard to coinage.

In addition to article 23 of our decree of September 19, 1857, we hereby, after the deliberations of ministers and hearing of the senate, establish the following regulations for the entire empire:

1. The standard of currency adopted by our decree of September 19, 1857, (see No. 169) by which 45 gulden, under the name of Austrian currency, are coined from a pound of fine silver, becomes on and after November 1, 1858, the only lawful coin, and the foundation of the new coinage system determined upon for the empire; from that date the use of all other kind of currency heretofore lawful ceases.

2. After the 1st of November, 1858, all revenues and expenditures in the empire shall be adapted to the new Austrian currency, if not fixed as due in another coinage, and all accounts at the public banks and offices only carried on in this currency.

3. After January 1, 1859, all books and accounts of the community, as well as those

under the especial inspection of the head of the corporation, societies, and orders for public purposes, such as banks, money-orders, railroad enterprises, shall be carried out in Austrian currency. The political authorities will, through the lawful powers conferred upon them, take the necessary steps for the execution of this decree.

4. Should any amount of currency be referred to from November 1, 1858, in laws, decrees, or public notices without any particular currency being specified, it is to be understood that Austrian currency is intended; this also applies to judicial decisions rendered since that date for damages, complaints, and demands, &c. All are to be governed by the regulations which go into effect on November 1, 1858. In cases where it is not legally proved that another coinage was intended, it will be presumed to refer to Austrian currency.

5. All liabilities depending upon and made good by private title of November 1, 1858, and referring to one of the following currency valuations, are to come under this regulation, and are to be given in the new Austrian currency, after the following table:

	Florins.
100 florins of the mint conference, (20 florins standard).....	105
100 florins so-called Vienna currency.....	42
100 florins so-called Crown currency, (24 florins standard).....	87 $\frac{50}{100}$
100 florins Austrian francs.....	35
100 florins Polish currency, province of Cracow.....	25

Liabilities in such of the above currencies as have for their standard the 20-florin or Lira-Austrian standard, are to be converted into the new coinage by the above table. An especial publication will be made giving the comparative relation of the old to the new currency, in which the rules to be employed in the exchange of one currency to the other shall be given in all cases relating to such exchange.

6. In all liabilities relating to debts, the table of payment (section 5) is to be used. From the 1st of November, 1858, all other liabilities of the state are thus to be fulfilled, and likewise all transactions between individuals or corporations.

7. The quality of the gold coin of national coinage as the standard coin of the country, and the circulation of foreign-coined gold, as heretofore decreed, ceases after July 1, 1858.

8. Bills whose title stands in fixed figures before the 1st of November, 1858, as due in gold coins, are to be paid in such coins. Payments, whose date is before July 1, 1858, payable in gold or other named coins, are to be paid in conformity with the law before named.

9. Payments due in fixed foreign silver currency must also, after November 1, 1858, be paid in the same.

10. In all of the so-called bank valuations, as well as payments which are in accordance with the decree of June 4, 1848, and the imperial order of February 7, 1856, (No. 21 of the Reichsgesetz,) the bills of the privileged national bank shall be received at the full value fixed by the mint-conference, and henceforth shall be rendered in the same.

11. All standards of coinage differing from that fixed by the decree of September 10, 1857, and national silver and copper coins which have not the actual legal value, are as soon as possible, according to a law of the minister of finance, to be called in and put out of circulation. The legal value of the Levantine thaler, and the fixed legal circulation of all foreign silver coin, cease after November 1, 1858.

12. After November 1, 1858, until such time as any of the following-named coins shall be put out of circulation, they are to be valued according to the following Austrian currency, and shall be received at such fixed rates:

	Florins.	Hundredths
1. 2-gulden piece, or scudo, (gold).....	2	10
2. 1-gulden piece, or $\frac{1}{2}$ -scudo.....	1	5
3. $\frac{1}{2}$ -gulden piece, or zwanziger, nine-tenths fine, and Austrian lira..		35
4. $\frac{1}{3}$ -gulden, or zwanziger, old coin, $9\frac{1}{2}$ grains fine.....		34
5. $\frac{1}{4}$ -gulden, or 10-krentzer piece, and $\frac{1}{2}$ franc.....		17
6. $1\frac{1}{2}$ -gulden, or 5 kreutzers, and $\frac{1}{4}$ franc.....		8.5
7. $\frac{1}{20}$ -gulden, or 3 kreutzers.....		5
8. Crown thaler.....	2	30
9. $\frac{1}{2}$ Crown thaler.....	1	12
10. $\frac{1}{4}$ Crown thaler.....		55

Silver currency.

11. 6 kreutzers of 1848, 1849.....	10 thousandths.
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Copper coins.

12. 2 kreutzers.....	3 thousandths.
13. 1 kreutzer.....	1.5
14. 3 centimes.....	1
15. $\frac{1}{2}$ kreutzer and 1 centime.....	0.5

13. Inasmuch as the privileged Austrian bank-notes must be accepted as silver, according to existing laws, they shall, until their withdrawal, be valued at the rate of 100 florins to 105 florins of Austrian denomination, which is the rate of the conventional (20 florins) standard, with which these notes were placed on par.

14. No one can refuse to accept the union (verein) coins issued in accordance with our decree of September 19, 1857, and they must be taken at their full value of $1\frac{1}{2}$ or 3 florins by all state and other institutions, and banks, in payment, even when the bill or account calls for another special class of Austrian currency. Union (verein) coins must be used to pay accounts, &c., calling for union (verein) currency.

15. In accordance with the mint-decree of January 24, 1857, the one and two thaler pieces coined in those states which took part or entered into this convention shall be used in general circulation.

16. In accordance with the German mint-conference of July 30, 1838, to determine the union coin, the two-thaler ($3\frac{1}{2}$ -florin) piece of the $24\frac{1}{2}$ -florin standard shall be equal to two national-union thalers in all general circulation.

17. The pieces coined according to the 14-thaler standard by the states that took part in the monetary convention of January 14, 1857, will have a value of $1\frac{1}{2}$ florins, Austrian, throughout the empire.

18. No one is obliged to receive payment in copper coin for a larger sum than one-quarter florin.

19. Our minister of finance shall decide the difference of value, when brought to the banks for exchange, of the Austrian currency with national coin, when the sum in silver is not less than 40 florins, or in copper less than 10 florins.

20. In accordance with the mint-conference of January 24, 1857, in the states that have taken part in the same or have acceded thereto, the krone and half-krone shall be used as the union gold coin, as well at the state banks as in all other business transactions.

21. Banks and other institutions existing under the protection of the state are not allowed to determine in regard to payments to be made to them whether such payment shall be all in gold or all in silver, to the prejudice of one or the other. Such distinctions as made in notes or agreements shall be deemed unlawful, and no distinction of that kind is to be made in payments of lawful current currency.

22. Those to whom the management of traffic and commercial interests are intrusted shall fix the value at which all foreign and national gold pieces are to be received, and the manner in which they shall be taken instead of silver coins.

23. To our minister of finance is committed the execution of the present decree.

Given at Vienna April 27, 1858.

FRANZ JOSEPH.

Imperial decree of April 27, 1858, in relation to the recall of the Vienna paper money, and extension of the term allowed for the redemption of all other tender issued by the state.

According to the mint-decree of January 24, 1857, (No. 101 of the Reichsgesetz,) with the introduction of Austrian coins all other currency is to cease. After the examination of my minister and hearing of the Reichsrath, I issue the following decree:

1. After July 1, 1858, in conformity with the decree of February 20, 1811, all the Vienna paper money for my entire kingdom shall be put out of circulation, and can no longer be used either in public offices or private traffic as payment.

2. Until this date, the Vienna paper money is to be received in payment, and for those that are to be made in coin of the convention, the paper money is to be received at the rate of 250 florins of Vienna currency to 100 florins of the conventional currency. My minister of finance shall issue directions that this paper money in public banks or offices, and also at the chief state bank, shall be changed before the end of October, according to the regulations in regard to conventional currency.

3. Whoever, after the following decree, shall be obliged to make a payment in Vienna paper money can, so long as the standard of 20 florins remains fixed, do so in this currency, with the proportion of 250 florins Vienna currency to 100 florins of conventional currency, but only in Austria, and with a ratio of 100 florins Vienna to 42 florins of the new Austrian currency.

4. For the various gold coins ordered by the state, through my minister of finance, to be withdrawn from circulation, I hereby extend the time until July 1, 1858, after which date they can no longer continue in circulation.

FRANZ JOSEPH.

Decree of the minister of finance of April 28, 1858.

Upon the naming of the hundredth part into which the Austrian guilder shall be divided.

His Imperial Majesty has resolved to issue the above decree of April 27, 1858.

That the hundredth part in which the Austrian guilder shall be divided, in accord-

ance with article 4 of the decree of September 19, 1857, shall be called in German *neukreutz*, and in Italian *soldi*.

Decree of the 12th of August, 1858.

In the annexed statement all union coins which are in accordance with the decree of September 19, 1857, and April 27, 1858, (No. 169 of the year 1857, and No. 63 of the year 1858 of the Reichs law,) on and after November 1, 1858, the new Austrian currency shall be received as a legal tender in all payments and business relations. They consist of Austrian currency coined in accordance with the decree of September 19, 1857. The annexed engraving represents both sides and edge of the new coin, as also of the union gold coin, namely :

1. The krone and half-krone, which have not the fixed value of the silver currency.
2. Austrian currency that until now belonged to the convention, on which since the decree of April 27, 1858, a fixed value has been placed.

3. Coins which, in accordance with the mint-decree of January 24, 1857, in the United Kingdom of Austria, in which any of the three following currencies are employed :

a. The Austrian currency of Fürstenthum Lichtenstein.

b. The thaler currency of 30-thaler standard, or until now the 14-thaler standard, (kingdom of Prussia, with the exception of the state of Hohenzollern, the kingdom of Saxony, and Hanover, the electorate of Hesse, the grand duchy of Saxony, duchies of Saxe-Altenburg, Saxe-Gotha, Brunswick, Oldenburg, with Birkenfeld, Anhalt-Des-sau, Anhalt-Köthen and Anhalt-Bernburg, the principality of Schwarzburg-Sonderhausen, Schwarzburg-Rudolstadt, Waldeck and Piedmont, Reuss, (ältere Linie, Schaumburg-Lippe and Lippe.)

c. The South German currency of the 52½-gulden standard, or hitherto the 24½-gulden standard, the kingdoms of Bavaria and Württemberg, the grand duchy of Baden and Hesse, the duchy of Saxe-Meiningen, the principality of Saxe-Coburg, the Hohenzollern, late of Prussia, duchy of Nassau, the sovereignty of the principality of Schwarzburg-Rudolstadt, landgrave Hesse, free city of Frankfurt, according to their value as fixed in payment and distinguished by different species of coin.

A. National silver coin which are not fixed in a specified currency.

B. Union (silver) coins which have also the same value as national coins. Even when the agreement is fixed in other coins, Austrian national currency may be used in payment. They are only to be employed when the agreement of payment is fixed in union currency—a value belonging to the union coins in all states of the mint-conference.

C. Current currency in silver and copper shall only be received when the payment is less in amount than 22 new kreutzers, (¼ gulden.)

FREIHEN VON BRUCK.

Table of the fixed value of Austrian currency in mint-coin from November 1, 1858.

SILVER NATIONAL COINS.

Austrian coins coined after the decree of September 19, 1857.		Until now the conventional mint-coinage of Austria.		Coins used as a union coin in the different states.	
Names.	Worth in Austrian currency.	Names.	Value in Austrian currency.	Names.	Value in Austrian currency.
	<i>Fl. kr.</i>		<i>Fl. kr.</i>		<i>Fl. kr.</i>
1. 2 gulden.....	2 00	1. 2-gulden piece, (seudo).....	2 10	One thaler, until now the Austrian standard, (14 florins.)	1 50
2. 1 gulden.....	1 00	2. 1-gulden piece, (½ pseudo).....	1 05		
3. ½ gulden.....	25	3. 20 kreutzer, new coinage, 9-10ths fine, and Austrian lira.	35		
		4. 20 kreutzer, (old,) 9½ loth.....	34		
		5. 10 kreutzer, (½ lira).....	17		
		6. 5 kreutzer, (¼ lira).....	8.5		
		7. 3 kreutzer.....	5		
		8. Crown thaler.....	2 30		
		9. ½ crown thaler.....	1 12		
		10. ¼ crown thaler.....	55		

Table of the fixed value of Austrian currency in mint-coin from November 1, 1858.

UNION SILVER COINS.

Austrian coins coined after the decree of September 19, 1857.			Until now the conventional mint-coinage of Austria.		Coins used as a union coin in the different states.		
	Names.	Worth in Austrian currency.		Value in Austrian currency.		Names.	Value in Austrian currency.
		<i>Fl. kr.</i>		<i>Fl. kr.</i>			<i>Fl. kr.</i>
1	2 union thaler	3 0	.....	.....	1	* Union coin 2 thal- er, or 3½ gulden.	3 0
2	1 union thaler	1 50	.....	.....	2	† 2 union thaler ...	3 0
					3	‡ 1 union thaler ...	1 50

SILVER CURRENCY.

1	10 neu-krentzer.....	10	6 krentzer, (of the year 1848 and 1849.)	10		
2	5 neu-krentzer.....	5				

COPPER COINS.

1	3 neu-krentzer.....	3	2 krentzer and 10 centesimi, 1851.	3		
2	1 neu-krentzer.....	1	1 krentzer and 5 centesimi, 1851.	1.5		
3	½ neu-krentzer.....	0.5	3 centesimi.....	1		
			½ krentzer.....	0.5		
			1 centesimi.....	0.5		

* 7 a fine mark.

† 15 a fine pound.

‡ 30 a fine pound.

Imperial decree of August 30, 1858, concerning the carrying-out of the mint conference of January 24, 1857, with reference to the privileges of the Austrian National Bank, for the whole kingdom, with the exception of the Lombardian-Venetian kingdom.

To put in force the decisions of the mint conference of January 24, 1857, and especially article 22 of the same, after hearing my ministers and senate, decree the following:

1. From November 1, 1858, the National Bank of Austria shall only issue Austrian currency of 1,000, 100, and 10 florins; such notes are, however, permitted to be canceled before November 1, 1858.

2. The Bank of Austria is obliged to pay the value of the note to the holder at the chief bureau in Vienna always in silver coin.

3. Of the notes which will be put in circulation to represent Austrian currency, at least one-third must be redeemed in silver coin or silver bars, or (according to circumstances and with consent of my minister of finance) partly also in gold coins or gold bars; the rest with lawfully-discounted paper or other securities.

4. The bank-notes of the Austrian currency have not only the privileges accorded to notes of the national bank of article 15, from the decree of July 1, 1841, that they are to be received at all public exchanges, but also the advantage that every one is obliged to receive them in payment at the fully-named value of the Austrian currency.

5. As the privileged Austrian National Bank issues notes representing the new Austrian currency, it shall withdraw from circulation notes representing conventional currency that may still exist; until that time, these shall be received in payment according to articles 10 and 13 of my decree of April 27, 1858, (No. 63 of the rechs law.)

6. For the withdrawal and discontinuance of the circulation of the conventional currency, the following notes have been determined upon: 1,000 florins the 30th of June, 1859; 100 to 50 florins the 31st of August, 1859; 10 florins the 31st of October, 1859.

7. The notes representing conventional currency of 5, 2, and 1 florins are from henceforth with all haste to be diminished to an amount not greater than 100 millions of gulden. The time in which they shall be recalled entirely and put out of circulation shall be hereafter determined.

8. A committee of members chosen from among the bank-directors, assisted by the proper officers, are strictly to enforce the provisions of paragraphs 3, 5, 7.

9. At the close of each month, the number of notes of the privileged national banks put in circulation and the measures which have been taken to secure them as directed by paragraph 3 shall be made public.

FRANZ JOSEPH.

VIENNA, August 30, 1858.

Decree of the minister of finance October 21, 1862, upon the value of exchange of gold and silver foreign coins.

The following tariff shows the worth of different silver and gold coins, and the value at which they are to be estimated when presented for exchange.

The tariff for gold coin has effect as long as the value of the "Krone" remains fixed at 13 florins 50 krentzers.

Whenever foreign coins are presented not contained in the annexed tariff, their value can be ascertained by referring to those of the same class in the table.

*Tariff of comparative value of foreign coins.**

Number.	Countries.	Names of coins.	Value.
			<i>Fl. kr.</i>
1	German states	Crown thaler	2 30
2	South German states	Two-gulden piece	1 70
3	South German states	One-gulden piece	85
4	South German states	One-half-gulden piece	42½
5	North German states	One-sixth of thaler	25
6	† France, Belgium, Switzerland	Five-franc piece	2 0
7	Kingdom of Italy, Sardinia, (since 1814)	Five-lire piece	2 0
8	Republic of Venice, (since 1797)	Sendo of the cross	2 64
19	Republic of Venice	Quistino, (ducat)	2 29
10	Republic of Venice	Lira, (small)	25
11	Milan, (since 1796)	Scudo	1 84
12	Milan, (since 1796)	Lira	30
13	Modena, (1739)	Scudo	2 22
14	Modena, (1782)	Scudo	2 25
15	Parma, (1800)	Ducat	2 04
16	Lucca, (1790)	Pisa thaler	2 15
17	States of the Church, (Bologna)	Thaler	2 15
18	States of the Church	Scudo	2 12
29	Roman Republic, (1799)	Sendo	2 12
20	Spain	Piastre, (mata colonatto, with column)	2 15
21	‡ Great Britain	Schilling, (shilling)	46
22	United States of North America	Dollar	2 12
23	Russia	Rouble	1 60
24	Turkey, (since 1845)	Twenty-piastre piece	1 76
25	Prussia	Frederick d'or	8 10
26	Bavaria	Ducat	4 62
27	France, Belgium	Twenty-franc piece	7 80
28	Russia	Half-imperial	8 05
39	Great Britain	Sovereign	9 84
30	Netherlands	Willem d'or	8 10
31	France, (since 1794)	Louis d'or	9 78
32	Sardinia, (since 1832)	Twenty-lire piece	7 80
33	Genoa, (since 1799)	Pistole, (doppia)	30 75
34	Piedmont, (since 1799)	Pistole, (doppia)	11 02
35	Milan, (since 1799)	Pistole, (doppia)	7 64
36	States of the Church	Pistole, (doppia)	6 64
37	States of the Church	Sequin	4 54
38	Tuscany	Sequin, (doppia)	4 62
39	Turkey, (since 1845)	One-hundred-piastre piece	8 85

* The value of fractional pieces, and many coins of the same class as those named, may be determined easily by their proportionate value.

† Since 1860 in Switzerland, the two and one franc pieces are only coined for currency, so that their own value is only eight-ninths of the face value; hence the new Swiss one and two francs should be regarded as worth 70 and 35 neue krentzer.

‡ The *shilling* (whose value is the one-twentieth of a pound sterling) will be regarded, like other British silver coins, only as fractional currency.

Decree of the minister of foreign affairs and of finance, April 29, 1866.

Upon an alteration in the second part of article 18, made by the mint conference of January 24, 1857 :

The imperial government of Anstaia as well as the Principality of Lichtenstein

have determined upon the following alterations in the second part of article 18 of the mint conference of January 24, 1857:

The length of time that Austria reserves for the coinage of ducats shall continue until the end of the year 1870.

Article 13 of the treaty of peace between Austria and Prussia of August 23, 1866, signed at Prague August 23, 1866, and ratifications exchanged August 30, 1866.

ARTICLE 13. All agreements and treaties ratified between the high contracting powers before the war, so far as their application has not become impracticable through the dissolution of the German Confederation, are hereby decreed to continue in full force as heretofore.

The union conventional decree will continue in force with the German Confederation of February 10, 1831, with the additional decree between Austria and Prussia. The imperial government of Austria, however, declares that the mint conference which closed on January 26, 1857, through the dissolution of the German conference, loses its importance for Austria; the imperial government of Prussia declares itself in readiness to enter into negotiations with Austria in regard to the abolition of this decree.

Likewise, the contracting parties hold themselves in readiness to revise the commercial and tariff decrees of April 15, 1865, with the intention to introduce a great alleviation in the present decree as soon as the negotiation is possible. The present decree shall continue in force until the meeting of the contracting parties, after which a notice of six months will be given before any new law is enforced.

Decree of the minister of finance June 6, 1866, upon the standard value of pieces of 2 francs, 1 franc, and 50 centimes.

In the countries in which franc currency is used, since the year 1866, have been coined the 2 and 1 franc, the 50 and 20 centimes (Rappen) only as current coin, according to item 6 and 7 of the financial decree of 1862 (see 45, 279) of the tariff contained therein, that these new pieces when presented at the public exchange shall not be regarded in a ratio of 2 florins for each 5 francs, but are to be valued at 70, 35, 17½, and 7 new kreutzer.

BOLIVIA.

[Translation.]

Constitutional assembly of Bolivia.—Coinage laws.

Article 1st. There shall be three classes of money of the republic—gold, silver, and copper, all arranged on the decimal system.

2d. The gold coin shall be of three kinds. The largest shall be called the bolivar, equal to 10 francs silver, and shall weigh 16 grams 129 milligrams, with a diameter of 23 millimeters. The second shall be called a half-bolivar, equal to 5 francs silver, weighing 8 grams 65 milligrams, with 22 millimeter diameter. The third, to be called escudos, and to be worth 2 francs silver, to weigh 3 grams 225 milligrams, with a diameter of 18 millimeters.

3d. The alloy of gold coin shall be 900, the tolerance in alloy 001, and in weight 2 milligrams in the bolivar; in the half-bolivar 2½ milligrams, and in the escudo of 2½ milligrams.

4th. The type of the gold coin shall be as follows: On the obverse the national escutcheon, with the inscription, "Republica Boliviana," over the upper part, and below, the name and value of the coin; thus, "one bolivar, ten francs," &c.

The national shield shall be surmounted by a condor, of the form now used on the national arms, below which shall be the nine stars representing the nine departments of the republic. On the reverse the effigy of the liberator Bolivar. Around the bust the inscription, "La Union es la Fuerza," the alloy and weight of the coin, the mark of the mint, and the initials of the assayer; also the date of coinage.

5th. The silver coins shall be of five kinds: The bolivia, weighing 25 grams, with a diameter of 35 millimeters, divided into 100 centavos. The half-bolivia, weighing 12 grams, 500 milligrams, with a diameter of 30 millimeters, and divisible into 50 centavos. The peseta, weighing 5 grams, with a diameter of 23 millimeters, and divisible into 20 centavos. The real, weighing 2 grams 500 milligrams, with a diameter of 18 millimeters, divisible into 10 centavos. The half-real, (medio real,) weighing 1 gram 250 milligrams, a diameter of 15 millimeters, and a value of 5 centavos.

6th. All silver coin shall be 900 fine. The tolerance in weight shall be, for the bolivar, 5 milligrams; for the half-bolivar, 6 milligrams; for the peseta, 7 milligrams; the real and half-real, 10 milligrams.

7th. The type of the silver coin shall be the same as of those coins in use. The condor shall be similar to the one now in use in coining the decimal currency.

8th. There shall be only one copper coin issued for general use, as may be required, and of the value of one centavo.

9th. The type of the copper coin shall be as follows: On the obverse a condor, with the inscription "Republicana Boliviana," and the name of the coin; on the reverse, a garland of laurel and olive, and in the center the legend in two lines "La Union es la Fuerza," and below, outside the garland, the date of coinage, 1872, 1873, &c.

10th. No one shall be obliged to accept copper coins for a greater value than 10 centavos.

TEMPORARY LAWS.

ARTICLE 1. The law of August 29, 1871, which authorizes the coinage of ordinary currency below standard weight, shall become annulled by the 31st of December of the present year, although the 500,000 bolivias authorized by that law have not been issued.

ARTICLE 2. From the date that the law with reference to the exportation of bullion goes into effect, the mint shall coin one million as follows:

200,000 in coins of 50 centavos, (half-bolivias.)

200,000 in coins of 20 centavos, (pesetas.)

300,000 in coins of 10 centavos, (reals.)

300,000 in coins of 5 centavos, (half-reals.)

Let this be communicated to the executive for execution and completion.

Hall of sessions, La Paz, November 11, 1872.

MANUEL VINCENZO.

Thomas Frias, President of the republic of Bolivia, taking into account, &c., decree:

1st. The National Bank of Bolivia will give the holder of the bad money "dos caras" the 25 per cent. of the value for which they already circulate—that is to say, that each four-real piece will be considered worth only 30 cents of a boliviano, (which in law and weight is exactly a United States dollar,) and each two-real piece only 15 cents, so that the bank will reintegrate to the holder 10 cents on the first-named and 5 cents on the last.

2d. The national bank will establish agencies in the different towns and capitals of the departments for the carrying out the provisions of this law.

3d. The notes issued to compensate for the deficiency in coins of light weight can only be cashed at the capitals of the different departments, Trinidad being for that purpose as the capital of the province of Santa Cruz.

4th. All holders of coin of light weight shall present them in person before committees especially appointed for the purpose. These committees shall be appointed at the capitals of the departments, and shall consist of the prefect or one of his delegates, of two members of the municipal council, of the head of the treasury department, and the director of the bank. In capitals of provinces the committee shall consist of the subprefect, two municipal agents, one parochial alcalde, and the director of the bank.

5th. Holders of light coins will present them to these committees, who will have them counted and redeem them, rejecting all that are evidently counterfeit, and pay the 25 per cent. difference in accordance with article 1.

6th. In capitals of provinces and their cantons, the notes that are issued to reimburse the holders of light coins must be accepted in general circulation, but can only be exchanged for coin at the department capitals. Such prefects, alcaldes, &c., are to receive such notes in payment of all dues, fees, emoluments.

7th. To facilitate this re-imbursement for pieces of light weight and avoid the inconveniences of exchange, the Bank of Bolivia is authorized to issue notes of 40 and 20 bolivian centavos.

8th. The provincial committees shall then issue certificates, exchangeable for these notes in the same province, but within 30 days at the latest, and the bank agent will be required to furnish the necessary notes.

9th. The priests of the republic as well as the magistrates, schoolmasters, &c., of all cantons will explain to the inhabitants the advantages of the conversion, the proceedings required, and the facilities for converting the notes into money.

10th. The supreme government, as soon as it receives notice from the National Bank of Bolivia of its having established the agencies required to effect the above-mentioned conversion, will designate the day on which it is to begin, and the time during which it shall continue, throughout the republic.

11th. On the days appointed for the conversion the receiving committees shall be in session from 10 a. m. to 4 p. m., and shall report each day the amount received, the

amount of false coins rendered useless, the number and value of certificates issued in compliance with article 8.

12th. The prefects will forward to the government as soon as possible a true copy of the proceedings of the department and provincial committees. The original reports are to be deposited in the banks.

13th. The government, acting with the National Bank of Bolivia, shall determine, when practicable, the plan by which all light-weight coins shall be definitely withdrawn from circulation, and also on what currency shall remain as a sole circulating medium.

City of La Paz, April 24, 1873.

TOMAS FRIAS.

Table of the monetary system of Bolivia and the countries where the decimal system is employed.

FRENCH COINS, (UNION,) FRANCE, ITALY, SWITZERLAND, BELGIUM.

	Diameter in millimeters.	Weight in grams.	Standard.	Value in—	
				Francs.	Bolivia- nos.
GOLD.					
100-franc pieces.....	35	32.259	.....	100.00	20.00
50-franc pieces.....	28	16.129	.....	50.00	10.00
20-franc pieces.....	21	6.451	900	20.00	4.00
10-franc pieces.....	19	3.225	.....	10.00	2.00
5-franc pieces.....	17	1.613	.....	5.00	1.00
SILVER.					
5-franc pieces.....	37	25.000	900	5.00	1.00
2-franc pieces.....	27	10.000	.....	2.00	0.40
1-franc pieces, union coin.....	23	5.000	835	1.00	0.20
50 centimes, ($\frac{1}{2}$ franc).....	18	2.500	.....	0.50	0.10
20 centimes, (1-5 franc).....	15	1.000	.....	0.20	0.04
COPPER.					
10 centimes.....	30	10.000	.....	0.10	0.02
5 centimes.....	21	5.000	.....	0.05	0.01
2 centimes.....	20	2.000	.....	0.02	0.004
1 centimes.....	15	1.000	.....	0.01	0.002

MODERN BOLIVIAN COINAGE, LAW OF NOVEMBER 11, 1872.

GOLD.					
1 bolivar, (10 bolivianos)	28	16.129	.....	50.00	10.00
Half bolivar, (5 bolivianos)	22	8.065	900	25.00	5.00
Escudo, (2 bolivianos)	18	3.225	.....	10.00	2.00

BOLIVIAN COIN, MODERN.

SILVER.					
1 boliviano, (union coin,) 100 centavos	35	25.000	.....	5.00	1.00
Half boliviano, 50 centavos	30	12.500	.....	2.50	0.50
1 peseta, 20 centavos	23	5.000	900	1.00	0.20
1 real, 10 centavos	18	2.500	.....	0.50	0.10
Half real, 5 centavos	15	1.250	.....	0.05	0.01
COPPER.					
1-centavo piece .....	.....	.....	.....	.....	.....

Table of the monetary system of Bolivia, &c.—Continued.

OLD BOLIVIAN COINAGE.

	Weight in grains.	Weight in grams.	Standard.	Value in—	
				Francs.	Bolivia-nos.
GOLD.					
1 ounce	500	21.961	.....	87.50	17.50
Half ounce	250	12.480	.....	43.75	8.75
Double esendo	100	4.991	900	17.50	3.50
Esendo	50	2.495	.....	8.75	1.75
Half esendo	25	1.247	.....	4.37	0.87
SILVER.					
Old peso fuerte.....	547	27.307	.....	5.46	1.09
Old boliviano.....	505	25.210	900	5.04	1.00
Peso frias	400	19.968	.....	4.02	0.80
Coins of two caras withdrawn by the law of November 21, 1872.	400	19.950	666	2.97	0.59

PERUVIAN COINS.

GOLD.					
20 sole	644.448	32.258	.....	100.00	20.00
10 sole	322.224	16.129	900	50.00	10.00
5 sole	161.112	8.064	.....	25.00	5.00
2 sole	64.444	3.226	900	10.00	2.00
1 sol. (10 dineros)	32.222	1.613	.....	5.00	1.00
SILVER.					
1 sol. (union coin.) 100 cents .....	.....	25.000	.....	5.00	1.00
Half sol, 50 cents .....	.....	12.500	900	2.50	0.50
One-fifth of a sol, 20 cents .....	.....	5.000	.....	1.00	0.20
One-tenth of a sol, 10 cents .....	.....	2.500	.....	0.50	0.10
Half dinero, 5 cents .....	.....	1.250	.....	0.25	0.05
COPPER.					
2 centavos .....	.....	.....	.....	0.10	0.02
1 centavos .....	.....	.....	.....	0.05	0.01

CHILIAN COIN.

GOLD.					
1 condor, (10 pesos)	305.540	15.252	.....	50.00	10.00
Half condor, or doubloon, (5 pesos)	151.770	7.620	.....	25.00	5.00
Esendo, (2 pesos)	61.108	3.050	900	10.00	2.00
Half esendo, (1 peso) .....	.....	.....	.....	5.00	1.00
SILVER.					
One peso, (union coin.) 100 cents	500.768	25.05	.....	5.00	1.00
Half peso, 50 cents	250.384	12.50	.....	2.50	0.50
20 centavos, 20 cents	100.153	5.00	.....	1.00	0.20
10 centavos	50.066	2.50	.....	0.50	0.10
5 centavos	25.038	1.25	.....	0.25	0.05
COPPER.					
1 centavo	200.307	10.00	.....	0.05	0.01
Half centavo	100.158	5.00	.....	0.025	0.005

Table of the monetary system of Bolivia, &c.—Continued.

BRAZILIAN COINS.

Denomination.	Diameter in millimeters.	Weight in grams.	Standard.	Value in—	
				Frances.	Bolivia- nos.
GOLD.					
Money of account, 1,000,000 reis.....	-----	-----	-----	2, 509.00	500.00
Milreis.....	-----	-----	-----	2.50	0.50
GOLD.					
Coin of 20,000, weight $\frac{5}{8}$, 22 carats.....	-----	-----	-----	56.60	11.32
Coin of 10,000, weight $2\frac{1}{2}$	-----	-----	-----	28.30	5.66
SILVER.					
Coin of 2,000 reis weigh $\frac{7}{8}$, 5 gr., 11 dineros	-----	25.49	-----	5.19	1.03
Coin of 1,000 reis.....	-----	12.74	916	2.60	0.52
Coin of 500 reis.....	-----	6.37	-----	1.30	0.26
COPPER.					
Double vinten, 40 reis	-----	-----	-----	0.10	0.02
Vinten, 20 reis.....	-----	-----	-----	0.05	0.01

SPANISH COINS.

Doubloon of 10 escudos, 100 reals.....	22.00	8.387		25.99	5.20
Doubloon of 4 escudos, 40 reals.....	18.00	3.354	900	10.39	2.07
Doubloon of 2 escudos, 20 reals.....	15.05	1.677		5.19	1.03
SILVER.					
Coins of 2 escudos, 20 reals.....	36.75	25.960		5.19	1.03
Coins of 1 escudo, 10 reals.....	29.50	12.980		2.59	0.51
4-10ths of an escudo, 4 reals.....	23.25	5.192	900	1.03	0.20
2-10ths of an escudo, 2 reals.....	18.75	2.596		0.51	0.10
1-10th of an escudo, 1 real.....	14.75	1.298		0.25	0.05
COPPER.					
5-1000ths of an escudo or hundredths of a real.....	32.00	12.50		0.012	0.002
$2\frac{1}{2}$ -1000ths of an escudo or hundredths of a real.....	25.00	6.25		0.006	0.001
1-1000th of an escudo or hundredth of a real.....	18.00	2.50		0.002	0.000
$\frac{1}{2}$ -1000th of an escudo or hundredth of a real.....	15.05	1.25		0.001	0.000

NORTH AMERICAN COINS.

Denomination.	Weight in grams.	Standard.	Value in—	
			Frances.	Bolivia- nos.
GOLD.				
Double eagle, 20 dollars.....	33.42	900	103.64	20.72
Eagle, 10 dollars, .....1.....	16.71	.....	51.82	10.36
Half-eagle, 5 dollars,	8.35	.....	25.91	5.18
Quarter-eagle, 2½ dollars,	4.17	.....	12.95	2.59
1 dollar.....	1.67	.....	5.18	1.03
SILVER.				
One dollar of 100 cents	26.72	900	5.34	1.06
Half dollar of 50 cents	13.36	.....	2.67	0.53
Quarter dollar of 25 cents	6.68	.....	1.33	0.26
Coin of 10 cents	2.67	.....	0.53	0.10
Coin of 5 cents	1.33	.....	0.26	0.05

Table of monetary system of Bolivia, &c.—Continued.

ENGLISH COINAGE, (MONEY OF ACCOUNT, POUND STERLING.)

Denomination.	Diameter in millimeters.	Weight in grams.	Standard.	Value of—	
				Fraucs.	Bolivia nos.
GOLD.					
Guinea of 21 shillings		8.38		26.47	5.29
Sovereign of 20 shillings		7.98		25.21	5.04
Half guinea, 10s. 6d.		4.19	917	13.23	2.64
Third of a guinea, 7s		2.79		8.82	1.76
Quarter of a guinea, 5s. 3d		2.09		6.61	1.32
SILVER.					
Old crown, or crown of 5s		30.07	917	6.16	1.23
Modern crown of 1818		28.25		5.81	1.16
Old shillings		6.01		1.24	0.24
Modern shillings of 1818		5.65		1.16	0.23

On the Union-French coin, &c.

Note 1.—In 1866, a treaty was concluded in Paris between France, Belgium, Italy, and Switzerland, which exists at the present time, and according to the provisions of which the present coinage of the above-named nations is executed so that the appearance of French coins is exactly similar to those of Belgium, Italy, and Switzerland. Gold is coined in pieces of 100, 50, 20, and 10 francs, similar to those formerly coined by France, (we purposely omit the 40-franc piece.) The silver 5-franc coins contain an alloy of .900 fine, weigh 25 grams, and have a diameter of 37 millimeters. The other silver coins contain only .835 of fine silver, but these coins (from the 2-franc piece to that of 20 centimes) cannot be issued by the contracting powers except in the proportion of 6 francs for each inhabitant. From that proportion has resulted an issue of 239 millions by France, 141 by Italy, 32 by Belgium, and 17 by Switzerland. This treaty is to remain in force until the 1st of January, 1880. If none of the contracting parties recede from that treaty before the close of the year 1879, its provisions are to remain in force fifteen years longer. Any other country may take part in this treaty and profit by the advantages it offers, which we do not express in full, in order not to increase the length of this communication.

On Bolivian silver.

Note 2.—There being thus a constant uniformity in the weight and alloy of the coins, whenever large payments are to be made, the amount may be determined by simply weighing it in bulk and dividing it by 5, and the value will be obtained in francs; dividing this by 25, we will obtain the corresponding value in bolivianos. Suppose we receive in various denominations of such silver coins the quantity of 20 kilograms, or 20,000 grams; divided by 5, we have 4,000 francs; divided again by 25, will give the value of 800 bolivianos. We find similarly, from a known value in bolivianos or francs, the corresponding weight of any amount.

On Spanish copper coin.

Note 3.—The division of hundredths of a real (*imaginary coin*) only exists until we have concluded the recoinage of the old maravedi coins.

LAW AND DECREES RESPECTING DUTCH COINAGE—MARCH AND JUNE, 1875.

The following is a complete translation of decrees dated 16th March and 26th June of the present year, and a law dated 6th June, adopted by the Dutch government to suspend the coinage of silver for individual account and re-establish a gold standard:

I.—*Decree of 16th March, 1875, for further temporary suspension of article 18, first section, of the law of 26th November, 1847, (Staatsblad, No. 69,) permitting the coinage of silver standard money otherwise than for account of the state.*

We, William III, &c., considering article 1 of the law of 3d December, 1874, (*Staatsblad*, No. 191;)

Seeing the proposition of our minister of finance of the 1st March, 1875, No. 29, G. S.;

The council of state having been heard, (advice of 9th March, 1875, No. 7;)

Considering the further report of our minister of finance of the 12th March, 1875, No. 81, G. S.,

Have decreed and decree :

ARTICLE 1. Article 18, first section, of the law of 26th November, 1875,* (*Staatsblad*, No. 69,) permitting the coinage of silver standard money otherwise than for account of the state is further suspended until the 1st July, 1875.

ARTICLE 2. This decree comes into force on the 5th day after publication in the *Staatsblad* and in the *Staatscourant*

Our minister of finances is charged with the execution of this decree, which shall be inserted in the *Staatsblad* and at the same time in the *Staatscourant*.

WILLIAM.

THE LOO, 16th March, 1875.

The Minister of Finance,

H. J. VAN DER HEIM.

Published 21st March, 1875.

The Minister of Justice,

VAN LYNDEN VAN SANDENBURG.

II.—Law of 6th June, 1875, making further temporary provisions respecting the Dutch coinage, (*muntwezen*.)

We, William III, &c., to all who these shall see or hear read, greeting, hereby make known :

Since we have taken into consideration that it is desirable to make further temporary arrangements respecting the coinage, (*muntwezen*;) :

So is it that we, having heard the council of state, and with public deliberation of the States-General, have approved and determined, as we approve and determine by this :

ARTICLE 1. There is to be standard, besides the silver, mentioned in article 2 of the law of 26th November, 1847, (*Staatsblad*, No. 69:)

The gold ten-gulden piece.

ARTICLE 2. The gold standard contains six thousand and forty-eight ten-thousandths parts (0.6048) of a gram (weight) fine gold per gulden.

ARTICLE 3. The fineness of the gold standard is 0.900, with a tolerance of 1.5 thousandths ($1\frac{1}{2}$ per mille) as well above as under that fineness.

The weight is 6,720 grams, (weight.)

The tolerance in weight is 2 thousandths parts of the weight (2 per mille) as well above as under it.

ARTICLE 4. The pattern of the gold standard is :

On the obverse, the King's bust, bearing for superscription, preceded by the word *King*, the name of the King, and the motto, *God be with us*;

On the reverse, the arms of the kingdom, with the royal crown, between the marks of value 10 G; further, the year and the superscription *Kingdom of the Netherlands*, besides the mint-marks and the marks of the mint-master.

The piece will be stamped in the ring, and will have a rim.

ARTICLE 5. Articles 17, 19, 21, and 22 of the law of 26th November, 1847, (*Staatsblad*, No. 69,) are applicable to the gold standard.

Every one will be free to have gold 10-gulden pieces coined at the royal mint when the work of the state does not prevent it.

The mint-master is not under an obligation to coin quantities of gold under the hundred kilograms, (pounds.)

The mint-charge to be paid by individuals will be established by us according to the general regulations of internal government; but not to be more than 5 gulden per kilogram (pound) of 10-gulden pieces.

ARTICLE 6. The coinage ceases of single, double, and half gold *williams*, provided for by articles 5, 13, and 14 of the law of 26th November, 1847, (*Staatsblad*, No. 69,) and by article 5 of the law of 1st May, 1854, (*Staatsblad*, No. 75.)

ARTICLE 7. This law comes into force on 1st July, 1875.

It will be revised before the 1st January, 1877.

Until that date, the permission to coin silver standard money otherwise than for account of the state is suspended.

We charge and command that this shall be inserted in the *Staatsblad*, and that all ministerial departments, authorities, boards, and officers whom it shall concern shall adhere to its exact performance.

Given at the Loo, the 6th June, 1875.

WILLIAM.

The Minister of Finance,

H. J. VAN DER HEIM.

Published the 12th June, 1875.

The Minister of Justice,

VAN LYNDEN VAN SANDENBURG.

* *Sic*; but should evidently be 1847.

III.—*Decree of 26th June, 1875, for fixing the diameter of the gold ten-gulden pieces appointed by article 1 of the law of the 6th of June, 1875, (Staatsblad, No. 117.)*

We, William III. &c., considering article 17 of the law of 26th November, 1847, (*Staatsblad*, No. 69,) and articles 1 and 5 of the law of 6th June, 1875, (*Staatsblad*, No. 117;)

On the proposition of our minister of finance of the 4th June, 1875, No. 79, G. S.;

The council of state having been heard, (advice of 15th June, 1875, No. 21;)

Seeing the further report of our before-named minister of the 21st June, 1875, No. 111, G. S., have approved and determined:

ARTICLE 1. The diameter of the gold ten-gulden pieces appointed by article 1 of the law of 6th June, 1875, is fixed at *twenty-two and a half* ($22\frac{1}{2}$) millimeters.

ARTICLE 2. This decree comes into force on the 1st July, 1875.

Our minister of finance is charged with the execution of this decree, which will be inserted in the *Staatsblad* and in the *Staatscourant*.

WILLIAM.

CLARENS, 26th June, 1875.

The Minister of Finance,

H. J. VAN DER HEIM.

Published the 30th June, 1875.

The Minister of Justice,

VAN LYNDEN VAN SANDENBURG.

IV.—*Decree of 26th June, 1875, fixing the mint-charge to be paid by individuals for the coinage of gold ten-gulden pieces.*

We, William III. &c., considering the fourth and fifth clauses (*alineas*) of article 5 of the law of 6th June, 1875, (*Staatsblad*, No. 117;)

On the proposition of our minister of finance of the 4th June, 1875, No. 79, G. S.;

The council of state having been heard, (advice of 15th June, 1875, No. 21;)

Seeing the further report of our before-named minister of the 21st June, 1875, No. 111, G. S.,

Have approved and determined:

ARTICLE 1. The maximum mint-charge to be paid by private persons for gold ten-gulden pieces is fixed at five gulden per kilogram coined, under obligation upon the mint-master, in respect of that amount, according to the custom of the royal mint administration, to account for such a sum to the state as is fixed by us.

ARTICLE 2.—This decree comes into force on 1st July, 1875.

Our minister of finance is charged with the execution of this decree, of which a copy will be sent to the general chamber of accounts, and which will be inserted in the *Staatsblad* and in the *Staatscourant*.

WILLIAM.

CLARENS, 26th June, 1875.

The Minister of Finance,

H. J. VAN DER HEIM.

Published the 30th June, 1875.

The Minister of Justice,

VAN LYNDEN VAN SANDENBURG.

ITALY.

[Translation.]

Decree governing contracts of the mints of Italy.

[See article 23d of the law of November 13, 1859, No. 3747. See the royal decree of May 2, 1861, No. 16.]

Upon the proposition of the minister of State for agriculture, industry, and commerce, we, Victor Emanuel II, by the grace of God and the will of the nation King of Italy, have decreed, and do decree, as follows:

ARTICLE 1. The manufacture of gold and silver pieces shall be granted in all the public mints, by public competition, to the lowest bidder. The minister of agriculture, industry, and commerce is authorized to frame the conditions and directions relative thereto.

ARTICLE 2. In order that the present decree, sealed with the great seal of state, be inserted in the official report of laws and decrees of the kingdom of Italy, and sent to all those whose duty it is to obey it and cause it to be obeyed.

Given at Turin, October 20, 1861.

(Signed)

(Conntersigned)

VICTOR EMANUEL.
PH. CORDOVA.

[See the royal decree of October 20, 1861. See the notice of the council of state.]

The minister of agriculture, industry, and commerce decrees as follows :

ARTICLE 1. Proposals will be received, in competition, for the coinage of gold and silver money in the state mints in accordance with existing laws.

ARTICLE 2. Such proposals will not be accepted if the competitors fail to show, in making their bids, that they have deposited in the public funds the sum of 10,000 (ten thousand) francs in specie, or in state securities, as a guarantee for the faithful fulfillment of the contract. All deposits shall be returned to the bidders after the decision of the commission, as directed in article 8 of the present ordinance, except that of the successful bidder, which he can only receive after fulfillment of all conditions given hereafter in article 10.

ARTICLE 3. No offer will be considered if not conforming in all particulars to the rules given in the directions annexed to this ordinance, a copy of which shall be published and exhibited to the inspection of the public at the department of agriculture, industry, and commerce.

ARTICLE 4. The proposals will be presented in sealed envelopes bearing the full name and address of the bidder in Turin.

ARTICLE 5. The proposals must contain offers for the price of each kilogram of fine gold and each kilogram of fine silver, in conformity with the blank form annexed to the aforesaid directions, and the bids are subject to all rules and conditions specified in these directions, even if special mention of them is not made in the contract.

ARTICLE 6. The bids will be received from the present date until November 30, 1861, at the above-named department, by a clerk appointed for that purpose. He shall prepare an official report of all bids presented up to 4 o'clock p. m. of November 30, 1861, and his report shall be signed by the secretary-general of the department of agriculture, industry, and commerce. No offer presented after that date and hour will be accepted.

ARTICLE 7. On the day succeeding the date designated for presentation the bids will be opened in presence of the president of the royal court of accounts, the secretaries of the department of finance and of the department of agriculture, industry, and commerce. All bids offered shall be registered in an official report, prepared by an employé of the department and signed by the three members of the commission. Any person having presented bids may be present at this operation.

ARTICLE 8. The above-mentioned commission shall then proceed in secret session to examine the bids which may be admissible under the established rules, and decide which of them shall be accepted, subject to the approval of the minister, as provided in article 42 of the before-mentioned directions.

ARTICLE 9. The term for presenting a new bid, over and above that of the one chosen by means of an offer of an increase not less than one-fifth on the price accepted by the commission as the most advantageous, and beyond that established as the minimum by article 38 of the directions, shall expire at 4 o'clock p. m. of December 8, 1861.

All rules and formalities given in articles 2, 6, 7, 8, preceding, are applicable to these offers.

ARTICLE 10. The successful competitor shall, within eight days from the acceptance of his bid by the minister of agriculture, industry, and commerce, deposit in the treasury the sum of 500,000 (five hundred thousand) francs as the bond prescribed by article 41 of the above-mentioned directions. In case he fails in this condition he will forfeit the deposit already made by him, as mentioned in article 2, preceding.

Turin, October 21, 1861.

(Signed)

PH. CORDOVA.

Schedule of directions for the coinage of money.

PART FIRST—COINAGE.

ARTICLE 1. The coinage of gold and silver pieces shall be carried on by the highest bidder, in the mints of the state, according to the rules of the present schedule of directions.

ARTICLE 2. The contractor must be represented in each mint by a deputy, possessed of the necessary qualifications, and a special commission, for all monetary operations and the exchange of gold and silver bullion. Deputies shall be chosen only with the

approval of the minister of agriculture, industry, and commerce, upon the nomination of the directors of coining.

ARTICLE 3. The contractor shall be responsible, not only on his own account, but also as regards his deputies, his clerks, his workmen, and all his other dependents.

ARTICLE 4. He must furnish the funds necessary for the exchange of bullion.

ARTICLE 5. In all that regards the public service, the officers of the contractor will follow the instructions of the minister and his officers, who shall have free access to all departments occupied by the contractor.

ARTICLE 6. The duration of the contract shall be for twelve years from the 1st of January, 1862. In case of the death of the contractor the government shall have the power of discontinuing the contract.

ARTICLE 7. The coinage of gold and silver money shall be supplied with the bullion which shall be brought to the bureau of exchange, either by individuals, by the government, or by the contractor himself.

ARTICLE 8. The owners of bullion shall only be charged with the fixed commission for the expense of manufacture, refining, and parting, if such is necessary, according to the rate annexed to the present schedule of rules. [Document No. 1.] When bullion of different fineness is presented at the bureau of exchange, a mean rate shall be established for settling the charge for refining.

ARTICLE 9. In case of differences between the contractor and the owner in regard to the fineness of bullion, it shall be assayed at the central bureau of assays attached to the department.

ARTICLE 10. The bureau of exchange at each mint shall be open to the public, during the hours of business fixed for the mints. The contractor, or the person appointed as his delegate, shall fix the value of the bullion and pay the equivalent in specie for it.

ARTICLE 11. The bullion shall be received in presence of the verifier intrusted with its control, who shall register it to the account of the contractor.

ARTICLE 12. A safe, with two keys, shall be placed in each bureau of exchange. One of the keys shall be kept by the contractor, and the other by the verifier. In this safe shall be deposited—

1. All gold and silver bullion received at the exchange which is in excess of what is needed at once for coining.

2. The pieces coined and intended for the payments for bullion.

3. All amounts collected on account of the government which constitute the profit of the mints.

ARTICLE 13. The contractor is responsible for all bullion and specie deposited in the bureau of exchange or inclosed in the safe with two keys.

ARTICLE 14. The contractor cannot coin any bullion but that which has been formally charged to him upon the register of the exchange.

ARTICLE 15. All the bullion brought to the exchange must be converted into national coins.

ARTICLE 16. The pieces to be coined, to which the present schedule of directions relates, are those of gold and silver of the decimal system, according to the existing laws. The minister will determine the quantity of each kind of gold coin to be struck, according to the necessities of the service.

As to silver, the contractor shall be compelled to coin in small coins, the twentieth part of the total issue of five-franc pieces, according to the proportion which shall be fixed for each kind by the minister. If at any time the government should desire to have a quantity of small silver coins struck, which would be greater than the twentieth part of the five-franc issue, the contractor is entitled to the payment of the price fixed by the tariff annexed, (Document No. 2,) which shall be publicly posted in the bureau of exchange for the use and information of the public.

ARTICLE 17. The weight, fineness, allowances, and diameters of coins are fixed by the law, but as to the allowance in fineness of silver, it must not exceed two (2) thousandths above or below that established by law for gold coins.

ARTICLE 18. The control and superintendence of the coinage are confided to agents of the government; hence all pieces badly coined, or not admissible in the circulation for any other reason, shall be separated and defaced by the above-mentioned agents at the expense of the contractor.

ARTICLE 19. Bullion shall be coined in the mint where it has been brought for exchange, except when the minister, on agreement with the contractor, shall otherwise dispose of it.

ARTICLE 20. Gold and silver bullion below the legal fineness, or that containing gold received at a mint where there does not exist a workshop for refining and parting, can be sent to another mint at the expense, risk, and peril of the contractor. The bullion thus refined must be returned as ingots to the same establishment from which it was sent.

ARTICLE 21. The government shall have the power of transferring, entirely or in part, the present mints into other buildings, without being held in any indemnity to the contractor, who, however, must receive notice at least six months beforehand, and

find in the new buildings the same advantages as were presented in the buildings he has been obliged to leave.

ARTICLE 22. The government can also, without obligation of re-imbursement, lessen the number of mints, giving notice to the contractor six months in advance, and purchase at the valuation of experts the articles belonging to the establishment which cannot be transported or used in the remaining mints.

ARTICLE 23. The contractor shall have the gratuitous use of the whole buildings which actually constitute each mint, with the respective dependencies for the operations relating to them. He cannot use them for any other service.

The lodgings and other apartments necessary for the employés and the bureau of direction and for other services independent of the monetary manufacture are, however, excepted, and remain at the disposal of the government.

ARTICLE 24. The government shall, in addition, place at the disposal of the contractor, upon his demand and without charge, all the instruments, utensils, furnaces, and machines, and all kinds of property which are found in the mints.

The new coining-engines and other articles provided by the contractor, with the consent of the minister, shall be at the close of the contract purchased by government, at an appraised valuation.

ARTICLE 25. The consignment of buildings, as well as machines, utensils, and other property, will be made by inventory, description, and appraisement.

ARTICLE 26. No alterations can be made in the buildings by the contractor without previously obtaining the consent of the minister.

ARTICLE 27. Casual repairs of the mint buildings shall be defrayed by the contractor when in places under his control.

ARTICLE 28. All repairs, improvements, re-buildings, and substitutions of apparatus, furnaces, coining-engines, and other machines, furniture, and property belonging to the government and left for the use of the contractor, are also to be at his expense.

ARTICLE 29. The contractor must, moreover, provide at his own expense, 1st, for the fabrication of dies, "*coussinets*" (screw-die) and collars, as well as the matrices and stamps for the formation of the dies; 2d, for the examination, the verification of weight, the trial and counting of blanks, and of coined pieces, for the packing of coins, either in bags or in rolls, and their transportation through the establishment or from the mint to the vaults of the treasury; 3d, for all other accessory operations, and particularly furnishing copper for the alloys, payment of wages and salaries, purchase of fuel, lighting all the apartments of the mint, which are for the use and service of the contractor, purchase of utensils, machines, and any other property, only excepting the balances, weights, samples, registers, and stamps necessary for the official book-keeper, which shall be defrayed by the government.

ARTICLE 30. He shall have for his profits the proceeds of taxes for coinage, refining, and parting, as well as the commission from the owners of the bullion brought to the bureau of exchange, according to the rates annexed, (Document No. 1) which shall be made by government in conformity to the accepted bids of the contractor.

ARTICLE 31. The contractor shall be compelled to adopt all improvements indicated by science and art, to realize a perfect coinage.

ARTICLE 32. He shall also be obliged to observe all laws, decrees, and directions which are or may be issued relating to the coinage of money, as well as the instructions of the minister in regard to the present directions, which he must pledge himself to know and obey.

ARTICLE 33. The accounts and books to be kept, whether by the contractor or by the bureau of control, shall be determined by the minister.

ARTICLE 34. The coinage of base money, of copper or of other metal or alloy, is excepted from the present agreement, the government reserving the right of using for this purpose one of the mints, at its own choice, by giving notice three months in advance.

ARTICLE 35. Until the extraordinary coinage now taking place in the mints of Milan and Naples is completed, the duties of the contractor at the said mints is limited to the reception of bullion brought to the bureau of exchange, which shall, at his expense and risk, be sent to other mints for coinage. Nevertheless, in the mint at Naples, where the existing machinery can be used for the coinage of gold and silver pieces before the coining of the bronze money is finished, the contractor, if required by the minister, may be authorized to coin in this mint the gold and silver bullion received there by the bureau of exchange.

ARTICLE 36. The contractor should, as far as possible, retain in his service the employés now engaged in the royal mints.

PART SECOND—REGULATIONS.

ARTICLE 37. No bid will be accepted unless the person making it enjoys a credit adequate to the importance and delicacy of the undertaking.

ARTICLE 38. The contract will be given to the person making the highest bid on the

price of *fine* gold and silver, of which the minimum is fixed as follows: 3,436.50 francs (three thousand four hundred and thirty-six francs fifty centimes) for each kilogram of *fine* gold; 220 francs (two hundred and twenty francs) for each kilogram of *fine* silver. Bids must be made in francs and twentieths of a franc. No account will be taken of intermediate fractions.

ARTICLE 39. If, among the competitors, no individual should have offered the highest price for the two metals, the proportionate rate for the two highest prices shall be the rule for determining who shall have the contract.

ARTICLE 40. Bids shall conform to the blank annexed, (Document No. 3.)

ARTICLE 41. The contractor shall give a bond of 500,000 francs, (five hundred thousand francs,) in state securities or in specie, deposited in the public depository of the department of the national debt, which in this latter case will pay interest upon it until its restoration.

ARTICLE 42. The contract must be approved by the minister of agriculture, industry, and commerce, before going into effect, and if not approved will be regarded as void. If ten days elapse before it is approved by the minister, the contractor shall be released from all obligations.

ARTICLE 43. The cost of the contract and of the copies necessary for the minister and each of the mints, shall be defrayed by the contractor.

ARTICLE 44. If the contractor fails in any of the stipulations of his contract, the government may declare the contract dissolved, and in this case it may recommence the coinage at the risk and expense of the contractor, or continue his operations with due economy, also at the expense and on account of the said contractor, reserving always to the government additional action in court for damages. The contractor will, in such a case, also forfeit in penalty all right to the recovery of his bond.

ARTICLE 45. Questions which may arise as to the interpretation of the present schedule of directions, or upon its execution, shall be decided by the minister of agriculture, industry, and commerce, unless appeal is made to the terms of the law, which, however, shall not suspend, in the mean time, the execution of his decisions.

ADDITIONAL ARTICLE. Until otherwise ordered, the contractor for the coinage shall also be intrusted with the striking of medals, and providing therefor gold and silver at the fineness fixed in the annexed tariff, (Document No. 4.) The contractor shall collect on account of the government, the price fixed by the legal tariff, and receive for his own compensation the pay established in the said tariff.

All the expense of coinage and re-adjustment of machines shall be defrayed by the contractor. The government may strike, for the sake of economy or experiment, any medal, or any sample of coin desired, and for this purpose use the medal-machines to reproduce the matrices, stamps, dies, and all other engraved work which the minister of agriculture, industry, and commerce may need for his own service, or that of the other public departments.

(Signed)

PH. CORDOVA, *the Minister.*

DOCUMENT NO. 1.

TARIFF.

Approved by the King October 12th, 1861. No. 370. Of the commission to be collected at the royal mints for the coining of money and the refining and parting of metals.

ARTICLE 1. The commission for the coining of money shall be—

	Francs.
On gold, for each kilogram of <i>fine</i> gold.....	7. 44444
On silver, for each kilogram of <i>fine</i> silver.....	1. 72222

Consequently the price of the gold and silver to be paid to the owners of the bullion shall be—

	Francs.
For each kilogram of <i>fine</i> gold.....	3437.
For each kilogram of <i>fine</i> silver.....	220.50

ARTICLE 2. The commission for refining alone of gold not alloyed with silver, or silver without gold, shall be—

1. For gold without silver, and below 898 thousandths in fineness, for each kilogram of assayable metal..... 5 francs
2. For silver without gold, and below 898 thousandths in fineness, for each kilogram of assayable metal..... 90 centimes

ARTICLE 3. The commission for the refining and parting of bullion of mixed gold and silver shall be—

1. For that containing more than 150 thousandths of gold, for each kilogram of assayage..... 5 francs
2. For that containing 150 thousandths of gold, or less, for each kilogram of assayage..... francs 1.50 cent.

N. B.—The fineness of bullion shall be expressed in thousandths and in fractions of thousandths, which fractions shall be accounted for to the owners of bullion. The melting of ingots in the mint is not obligatory, since they can be broken and scratched to verify their fineness. In all cases, when the parties agree to proceed with the melting of the ingots for the necessities of coinage, the commission for melting alone shall not exceed fifty centimes per kilogram.

DOCUMENT No. 2.

Tariff of prices for the extraordinary coinage of small silver money in the royal mints.

	Francs.
For each kilogram of 2-franc pieces.....	.50
For each kilogram of 1-franc pieces.....	1. 00
For each kilogram of 50-centime pieces.....	2. 00

(Modified according to the law of August 24, 1862, No. 788, as well as the contract of February 6, 1863, by the convention setting the fineness of small silver at 835 thousandths.)

N. B.—The price above mentioned is to be paid from the surplus of the ordinary expense of manufacture.

The small money must be coined in one month from the day on which the order is given for it, and the bullion deposited, for which bullion the contractor must give a check.

DOCUMENT No. 3.

Form of contract.

I, the undersigned, declare that I will conform to the conditions given in the schedule of directions for the contract for coinage in the mints of the Kingdom or Italy, published by the minister of agriculture, industry, and commerce, and I offer for payment of fine gold and silver the following price, viz :

	Francs.
For each kilogram of fine gold	
For each kilogram of fine silver	

TURIN, ———.

SWEDEN.

Law governing the introduction of the new coinage system in Sweden, given at Stockholm May 30, 1873.

1. The new coins issued under the provisions of the law this day promulgated shall be supplied for circulation by the State Bank as early as they can be coined by the mint. But old coins issued under the law of February 3, 1855, or older statutes, which may be received into the funds of the government, shall be replaced by new coin in the circulation as soon as possible, but the rights of holders of the notes issued by the State Bank, and originally convertible into silver, shall not be affected by this law.

2. The right granted by the act of February 3, 1855, to private parties to have silver bullion converted into current coin by the mint upon payment of the prescribed seigniorage, and the privilege accorded by the act of July 31, 1868, authorizing persons to take gold to the mint to be coined into carolines, are hereby repealed, and the mint is hereafter allowed to coin upon the requisition of private parties only twenty-crown pieces and ten-crown pieces of gold.

3. The new coins issued shall immediately become legal tender in the manner prescribed by the new coinage-law herein alluded to, and in the payment of debts contracted

in terms of older denominations and issues, one crown shall be deemed exactly equivalent to one "riksdaler riksmünt." In the same manner and proportion as to value it is decreed that all coins now current, as well as notes of the State Bank payable in silver, shall, as long as they continue to remain legal tender of payment, be received in payment of debts contracted in terms of the denominations of the new coinage system.

4. As soon as the coinage convention with Denmark shall have been duly satisfied and the ratifications exchanged by the two governments, the law whereby coins issued by the Danish mint under the terms of this convention are made legal tender of payment in Sweden to the same extent as the Swedish coin, will take immediate effect.

5. On and after the 1st of January, 1875, all public accounts shall be kept in terms of the new coinage system.

6. Silver coins issued under the act of February 3, 1855, or older statutes, shall cease to be legal tender—those of the value of one riksdaler riksmünt and over from and with the 31st of December, 1873, and those of smaller denominations from and after the same day of the year 1881. Such coins shall continue to be received at the State Bank in exchange for new coin on terms prescribed in paragraph 3.

DENMARK.

Decree of the King calling in certain coins in circulation in Denmark.

LEGATION OF THE UNITED STATES,
Copenhagen, April 2, 1875.

SIR: I have the honor to inform you that, in accordance with the coinage-law of May 23, 1873, the Danish minister of finance has, by the direction of the King, issued an order, under date of March 24 last, by which the following-named silver, copper, and bronze coins, still in circulation, will, from and after November 1, 1875, be called in, and cease to be lawful currency, as well between the state treasury and the public as between man and man, viz:

$\frac{1}{8}$ rigsbankdaler or 2-mark pieces;
1 mark or 16-skilling pieces;
8-skilling pieces;
4-skilling pieces; and
3-skilling pieces; all of silver.
2-skilling pieces;
1-skilling pieces;
 $\frac{1}{2}$ -skilling pieces;
 $\frac{1}{4}$ -skilling pieces; all of copper.
1-skilling pieces;
 $\frac{1}{2}$ -skilling pieces; all of bronze.

For Iceland and the Faroe Islands these coins shall continue to be lawful currency for the period of six months from the date this order shall have been officially published there.

I am, sir, very respectfully, your obedient servant,

M. J. CRAMER.

HON. HAMILTON FISH,
Secretary of State, Washington, D. C.

GERMAN EMPIRE.

Imperial decree relating to the uniform designation of the gold coins of the German Empire dated February 17, 1875.

In pursuance of your report, under date of February 16, 1875, I do hereby ordain that, in all public offices of the empire, the designation of krone (crown) shall be used for the ten-mark piece, and that of doppel krone (double crown) for the twenty-mark piece; and this decree shall be made public in the Bulletin of Laws of the Empire.

Berlin, the 17th day of February, 1875.

(Signed)

(Countersigned)

The CHANCELLOR OF THE EMPIRE.

WILHELM.

PRINCE BISMARCK.

[Translation.]

A decree concerning the introduction of the standard money-value of the empire, dated September 22, 1875.

We, William, by the grace of God German Emperor, King of Prussia, &c., in the name of the German Empire, by virtue of section 1 of the act of July 9, 1875, fixing the value of coins, (Bulletin of Laws of the Empire, p. 233,) and by and with the advice and consent of the federal council, do hereby decree as follows, viz:

SECTION I.

The standard money-value of the empire shall go into force and effect throughout the entire territory of the empire on and after the first day of January, 1876.

Witness our own imperial hand and imperial seal hereto affixed.

Done at Rastock, September 22, 1875.

(Signed)

(Countersigned)

WILLIAM.

PRINCE BISMARCK.

BAVARIA AND WÜRTENBERG.

No. 149.]

UNITED STATES CONSULATE-GENERAL.

Frankfort-on-the-Main, April 12, 1875.

SIR: Referring to Department dispatch No. 23, to the consul at Stuttgart, I have to inform the Government that the kingdoms of Bavaria and Würtemberg have both already coined, and put in circulation, the reich-mark, and thus made it a legal currency, although it is not made a legal tender, to the exclusion of the gulden, in Würtemberg until July next, and in Bavaria until January 1, 1876. I do not see why the order of the treasury requiring the invoices of goods to the United States, "acquired otherwise than by purchase," may not now be extended to those countries. German shippers will prefer to invoice goods in gulden so long as they can do so. I suppose it to be our interest that all goods shipped from Germany be entered at like values.

I am, sir, your obedient servant,

WM. P. WEBSTER,

Consul-General.

Hon. JOHN L. CADWALADER,

Assistant Secretary of State, Washington, D. C.

THE NETHERLANDS.

Modification of the monetary system of the Netherlands.

UNITED STATES CONSULATE,

Rotterdam, June 19, 1875.

SIR: I have the honor to report to you that on June 12 a law has been promulgated modifying the monetary system of the Netherlands, which hitherto had been established on the excessive silver standard.

The essential dispositions of that law are as follows:

1. The legal coin, besides the silver coin, established by article second of the law of November 26, 1847, is the gold piece of 10 guilders.
2. This gold coin contains 0.6048 of a gram of fine gold on the gilder.
3. Gold coin contains 0.900, with a margin of 1.5 thousandths as well above as beneath it.
4. The weight is 6.720 grams. The margin in the weight is two thousandths of the weight.
5. There will be no more coinage of the single, double, and half willem established by articles 5, 13, and 14 of the law of November 26, 1847, and by article 5 of the law of May 1, 1854.
6. The present law will take effect on July 1, 1875.
7. It will be revised before July 1, 1877.

I am, sir, your obedient servant,

FREDERICK SCHUTZ.

Hon. JOHN L. CADWALADER,

Assistant Secretary of State, Washington, D. C.

GERMAN COINAGE.

The total of new money coined in Germany on the 9th October amounted to—

	Marks.	Marks.
In gold coins :		
Double-crowns	925, 368, 460. 00	
Crowns	272, 344, 390. 00	
		1, 197, 712, 850. 00
In silver coins :		
5-mark pieces	23, 143, 270. 00	
1-mark pieces	92, 414, 263. 00	
$\frac{1}{2}$ -mark pieces	1, 192, 363. 00	
$\frac{1}{3}$ -mark pieces	18, 266, 422. 80	
		135, 016, 318. 80
In nickel coins :		
10-farthing pieces	9, 996, 743. 00	
5-farthing pieces	5, 174, 636. 00	
		15, 171, 373. 40
In copper coins :		
2-farthing pieces	4, 143, 993. 00	
1-farthing pieces	2, 169, 384. 00	
		6, 313, 378. 63
Total		1, 354, 213, 920. 83

[Translation.]

Table of the new decimal Italian coinage, from 1862 to 1872.

Year.	Gold.	Silver.		Copper.	Total.
		Pieces of 5 lire.	Pieces of 2 and 1 lire, and 50 and 20 cent.		
1862.....	28, 608, 760	964, 435	330, 960. 50	28, 190, 442. 54	58, 094, 598. 04
1863.....	76, 514, 100	.....	31, 751, 913. 20	8, 000, 000. 00	116, 266, 013. 20
1864.....	12, 172, 600	601, 935	30, 696, 351. 10	.....	43, 470, 886. 10
1865.....	68, 705, 190	4, 010, 835	41, 937, 166. 80	.....	114, 653, 131. 80
1866.....	3, 926, 020	2, 351, 760	33, 501, 070. 60	20, 000, 000. 00	59, 778, 850. 60
1867.....	5, 525, 830	.....	16, 530, 145. 80	41, 293. 20	22, 097, 269. 00
1868.....	6, 807, 940	.....	1, 252, 452. 00	19, 958, 706. 80	28, 019, 098. 80
1869.....	3, 707, 100	19, 976, 230	.....	.....	23, 683, 330. 00
1870.....	1, 095, 400	38, 679, 280	.....	.....	39, 774, 680. 00
1871.....	470, 160	27, 166, 695	.....	.....	27, 636, 855. 00
1872.....	66, 100	35, 611, 920	.....	.....	35, 678, 020. 00
Total.....	207, 599, 200	129, 363, 090	156, 000, 000. 00	76, 190, 442. 54	569, 152, 732. 54

Statement of the coinage at the royal mint of Holland in 1872.

[Translation.]

Months.	Number of.	Number of pieces distributed.			Weight.			Nominal value.
		Ducats.	2½-gulden.	½-cent.	Ducats.	2½-gulden.	½-cent.	
January.....	3	30,059	.....	.....	105,173.686	Kilograms.	Kilograms.	.....
Do.....	19	.....	760,000	.....	.....	18,998,132	.....	1,900,000.00
February.....	37	.....	1,480,000	.....	.....	36,996,659	.....	3,700,000.00
March.....	36	.....	1,423,998	.....	.....	35,596,210	.....	3,559,995.00
April.....	18	.....	720,002	.....	.....	17,998,500.5	.....	1,800,005.00
Do.....	10	.....	.....	2,026,000	.....	.....	3,894,985	10,130.00
May.....	37	.....	1,480,000	.....	.....	36,992,820	.....	3,700,000.00
June.....	32	.....	1,260,000	.....	.....	31,495,654.5	.....	3,150,000.00
July.....	41	.....	1,640,000	.....	.....	40,996,376.5	.....	4,100,000.00
August.....	34	.....	1,360,000	.....	.....	33,995,908.5	.....	3,400,000.00
October.....	9	.....	342,000	.....	.....	8,598,742.5	.....	855,000.00
November.....	42	.....	1,682,000	.....	.....	41,989,967	.....	4,205,000.00
December.....	32	.....	1,264,000	.....	.....	31,594,824	.....	3,160,000.00
Total.....	550	30,059	13,412,000	2,026,000	105,173.686	335,253,195	3,894,985	33,540,130.00 of 2½-gulden in ½-cent.
Unbroken proof-pieces.....	.....	6	672	.....	520.964	16,800	.....	1,680.00 of 2½-gulden.
Pieces reserved for expense of coining.....	.....	.....	3,706	.....	.....	92,640	.....	9,265.00
Total pieces coined.....	.....	30,095	13,416,378	2,026,000	105,194.650	335,362,635	3,894,985	33,551,075.00 in 2½-gulden, ½ cent.
Proof-pieces remelted.....	.....	27	4,748	.....	.....	.....	.....	.....
Repealed proof-pieces.....	.....	.....	2	.....	.....	.....	.....	.....
Repealed pieces.....	.....	.....	343	.....	.....	.....	.....	.....
In all.....	.....	39,122	13,421,471	2,026,000	.....	.....	.....	.....
	.....	.....	15,477,593	.....	.....	.....	.....	.....

RUSSIA.

[Translation.]

Amount of gold containing silver obtained from the Crown mines, from private mines, and from those belonging to the cabinet of His Majesty, during the last ten years in Russia.

Year.	From Crown mines.					From private mines.					From mines belonging to the cabinet of His Majesty.					Total.				
	Poods.	Lbs.	Zol.	Dol.	Ozs. Troy.	Poods.	Lbs.	Zol.	Dol.	Ozs. Troy.	Poods.	Lbs.	Zol.	Dol.	Ozs. Troy.	Poods.	Lbs.	Zol.	Dol.	Ozs. Troy.
1864.....	97	0	25	0	51,087.66	1,923	27	72	12	644,448.11	87	8	15	48	45,925.26	1,407	36	16	60	741,461.04
1865.....	103	34	77	0	54,702.27	1,363	18	36	84	718,054.72	124	0	87	72	65,315.54	1,591	14	9	60	838,072.53
1866.....	94	19	19	0	49,757.10	1,255	24	37	95	661,256.41	121	39	42	14	64,242.91	1,472	3	3	13	775,256.42
1867.....	98	6	56	0	51,697.30	1,392	15	23	38	733,285.94	150	1	83	0	79,920.87	1,640	23	66	38	864,004.11
1868.....	109	20	80	48	57,678.32	1,488	26	50	82	783,992.10	160	36	21	42	84,739.93	1,759	3	59	76	926,410.35
1869.....	73	23	75	48	38,758.06	1,418	25	25	1	747,110.45	166	35	11	77	87,884.91	1,659	4	16	30	873,753.42
1870.....	106	23	21	48	56,129.73	1,873	23	18	84	956,705.29	150	16	47	0	79,213.36	2,130	22	87	36	1,122,048.38
1871.....	111	32	28	0	58,882.35	2,090	16	85	84	1,100,903.45	165	31	45	0	87,310.22	2,368	0	62	84	1,247,096.02
1872.....	123	15	20	0	64,977.18	2,015	17	31	64	1,061,411.11	163	36	90	24	86,328.95	2,302	29	45	88	1,212,717.25
1873.....	117	12	47	0	61,781.52	1,989	2	55	92	1,047,524.24	162	3	87	48	85,367.43	2,268	18	94	44	1,194,673.19
Total.....	1,035	28	65	48	545,451.49	16,110	37	54	60	8,484,691.82	1,453	10	54	37	765,349.38	18,539	36	78	49	9,795,493.71

RUSSIA.

{Translation.]

Gold-coinage of the Russian imperial mint for 1872 and 1873.

Year.	Denomination.	Pieces.	Fineness.		Nominal value in United States coin.	Per cent. of legal allowance.	
						Wastage.	Expense.
		<i>Number.</i>	<i>Zolotinks.</i>	<i>Thous.</i>	<i>Dollars.</i>		
1872	Half-imperials.....	2,400,003	88	916.6	9,568,331 96	99.9	17
1872	Three-ruble pieces	100,003	88	916.6	239,215 17	100	100
	Total.....				9,807,547 13		
1873	Half-imperials	3,000,003	88	916.6	11,960,411 96	91.8	50
1873	Three-ruble pieces	77,003	88	916.6	184,197 33	100	100
	Total.....				12,144,609 29		

Legal allowance for wastage, .0006. +

Legal allowance for expenditures, half-imperials, 5 rubles, 25 copecks per pood of fine gold, about $1\frac{1}{2}$ mills per piece.

Three-ruble pieces, 4 rubles, 91 copecks per pood, about .8 mill per piece.

The gain on allowance for wastage, expenditures, remelting, and treatment of sweepings, is equally divided between the treasury and those employed in technical operations.

The gain on remedy for weight is credited to the treasury.

There is no fixed remedy for fineness. Fine gold is 96 zolotinks, standard gold 83 ; therefore—

$$\frac{88}{96} = \frac{11}{12} = 916.6 + \text{thous.}$$

Russian pound, 6,319.7 grains troy.

Value of half-imperial, \$3.98 $\frac{68}{100}$.*Silver-coinage for 1872 and 1873.*

Year.	Denomination.	Value.	Fineness.		Nominal value.	Actual value.	Per cent. of legal allowances.	
							Wastage.	Expense.
		<i>Rubles.</i>	<i>Zolotinks.</i>	<i>Thous.</i>	<i>Trade doll's.</i>	<i>Dollars.</i>		
1872	One, half, and quarter rubles.	1,000,005 $\frac{1}{2}$	83 $\frac{1}{2}$	868	734,003 85		80 $\frac{1}{2}$	39
1872	Subsidiary coin...	3,500,001 $\frac{1}{2}$	48	500	2,569,001 10	1,282,870 51	100	100
	Total	4,500,006 $\frac{3}{4}$			3,303,004 95			
1873	One, half, and quarter rubles.	700,007	83 $\frac{1}{2}$	868	513,805 13		65	29
1873	Subsidiary coin...	4,501,002	48	500	3,303,735 46	1,649,657 48	100	100
	Total	5,201,009			3,817,540 59			

Silver coin is issued at 83 $\frac{1}{2}$ zolotinks fine, 868 thous.

Subsidiary coin, 5, 10, 15, and 20 copeck pieces, is issued at its nominal value, although the fineness has been reduced to 48 zolotinks.

Value of silver ruble at trade-dollar valuation, 73.4 cents.

Legal allowance for wastage silver coin, 83 $\frac{1}{2}$ zolotinks fine, .0016.

Legal allowance for wastage subsidiary coin, 48 zolotinks fine, .0097.

APPENDIX No. 3.

Mineral resources and production of the United States.

TERRITORY OF ARIZONA, EXECUTIVE DEPARTMENT,

Tucson, May 25, 1875.

SIR: In answer to your favor of May 7, I have to say that we have no express companies in the Territory to transport bullion, which compels all exports to be made through private hands.

Our bullion so far has mostly been taken out by small companies by means of placer-washing and arrastras, many of whom do not seem disposed to report the amounts they take out, so that it is quite difficult to arrive at a correct statement, but from the best information I can obtain I should estimate the yield during the fiscal year ending June 30, 1875, to be as follows:

Gold-bullion.....	\$700,000
Silver-bullion	300,000
Total gold and silver	1,000,000

From the large number of new discoveries that are being made and the preparation going on for working ores, I should judge that the yield during the coming year will be increased fourfold.

Very respectfully, your obedient servant,

A. P. K. SAFFORD, *Governor.*

Hon. H. R. LINDEEMAN, *Director of the Mint.*

COLORADO.

Estimated amount of gold and silver produced from the mines of Colorado during the fiscal year ended June 30, 1875:

Gold.....	\$2,300,000
Gold in copper alloy	500,000
Total	2,800,000

Silver.....	1,772,000
Silver contained in ore	900,000
Total	2,672,000

Total gold and silver	5,472,000
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I feel confident that the yield of gold from Gilpin County and of silver from Clear Creek and Fremont Counties will be much larger during the current fiscal year than ever before.

Very respectfully,

J. F. L. SCHIRMER,
Assayer in Charge.

UNITED STATES MINT, *Denver, July 2, 1875.*

COMMONWEALTH OF MASSACHUSETTS,

EXECUTIVE DEPARTMENT,

Boston, May 21, 1875.

SIR: I am directed by his excellency the governor to acknowledge the receipt of your communication of May 6, and to say that there has been no production of gold or silver in this State during the past year.

Very respectfully,

G. H. CAMPBELL,
Private Secretary.

To the DIRECTOR OF THE MINT.

STATE OF MICHIGAN, EXECUTIVE OFFICE,

Detroit, June 10, 1875.

DEAR SIR: Governor Bagley directs me to say, in reply to yours of a recent date, relative to production of precious metals, that there is no gold produced in this State, and that the amount of silver is so small that no authentic account is kept, as it has thus far been only found in small quantities by those working in the copper-mines.

Very respectfully,

GEO. H. HOPKINS,
Private Secretary.

Dr. H. R. LINDEEMAN.

SUPERINTENDENT OF CONSTRUCTION,
UNITED STATES ASSAY-OFFICE,
Helena, Montana, October 5, 1875.

SIR: I have the honor to transmit herewith the statistics of the mineral resources of Montana for the fiscal year ending June 30, 1875, as compiled by Mr. W. F. Wheeler, at the request of B. F. Potts, governor of Montana, and myself.

Hoping it may be satisfactory, I am, dear sir, very respectfully,
M. A. MEYENDORFF,
Superintendent Construction.

Dr. H. R. LINDERMAN,
Director United States Mint, Washington, D. C.

UNITED STATES MARSHAL'S OFFICE,
Helena, Montana, October 5, 1875.

SIR: At the request of his excellency Governor B. F. Potts, and of M. A. Meyendorff, esq., superintendent of construction Helena assay-office, I have the honor to submit the following as the yield of gold and silver for the fiscal year ending June 30, 1875, to wit:

SHIPMENTS BY EXPRESS.	
Gold.....	\$2, 291, 768
Silver bars refined.....	54, 800
	2, 346, 568
To this sum I add fifty per cent. for gold held by miners, taken out of the country by private parties, and for undervaluation on shipments. In this I am sustained by our oldest business men, miners, and buyers of gold....	1, 173, 284
	3, 519, 852
During the same time there have been shipped, crude and concentrated silver ores to the amount of two thousand tons, of the average value of \$300 per ton	600, 000
Making a total value of gold and silver produced during said year of.....	4, 119, 852
On comparing this with the yield of the fiscal year ending June 30, 1874, which I had the honor to submit to the United States commissioner of mines, it will be seen that there is a decrease of.....	396, 228
My estimate for the fiscal year was.....	4, 516, 080
Of which gold amounted to.....	4, 355, 254
And silver to.....	161, 026

Thus showing that the yield of gold is decreasing annually, while the yield of silver is steadily increasing. I have not referred to the many thousands of tons, worth from \$50 to \$150 per ton, which it will not pay to ship, and which we have not the machinery to reduce.

Very respectfully,
WM. F. WHEELER,
United States Marshal.

Dr. H. R. LINDERMAN,
Director of the Mint, Washington, D. C.

Gross yield of the mines of the State of Nevada for the fiscal year ending June 30, 1875.

Name of mine.	Tons.	Pounds.	Value.
EUREKA COUNTY.			
Atlas.....	3, 318	.....	\$153, 067 43
Adams Hill Consolidated Mining Company	189	1, 431	6, 389 17
Beebe	2	1, 576	205 28
Buchanan & Co.'s.....	6	845	4, 629 04
Bugout.....	12	1, 163	621 90
Badger	9	1, 984	2, 045 63
Berlin	3	368	302 71
Corless	6	825	653 34
Calico	66	983	6, 523 34
Connelly	17	1, 125	850 50
Diamond	3	1, 533	323 97
Dunderberg	2, 376	.....	85, 129 03

Gross yield of the mines of the State of Nevada, &c.—Continued.

Name of mine.	Tons.	Pounds.	Value.
Enreka Consolidated Mining Company.....	35,669	.....	\$1,222,186 70
Enreka.....	9	877	1,122 56
Evening Star.....	6	272	365 74
Eliso.....	10	555	748 03
Flagstaff.....	3	324	397 81
Garrison.....	760	1,060	40,531 28
Grant.....	2	1,255	131 56
Geddes and Bertrand.....	93	702	7,504 58
Industry.....	194	924	9,041 22
I X L.....	2	312	97 18
Jenny Lynch.....	33	.....	1,294 11
K. K. Consolidated.....	4,226	.....	109,338 75
Kentuck.....	44	.....	2,812 00
Lyons.....	7	1,475	449 64
Lemon Mill and Mining Company.....	281	568	5,248 78
Mayflower.....	9	1,031	534 37
Matamoras.....	20	143	3,991 46
Magnolias.....	1	1,526	174 96
Murray.....	2	1,140	476 61
Mineral Hill Company's Mines.....	1,570	979	40,048 27
Mariposa.....	1	1,397	194 45
Martinello.....	3	1,267	568 86
Maria.....	13	761	1,608 15
Monroe.....	13	819	607 00
North Star.....	2	1,165	282 00
Newport.....	3	1,910	208 50
None Such.....	1	650	69 13
New Law.....	7	299	435 79
Oregonian.....	4	129	322 38
Page and Corwin.....	32	168	1,965 44
Pine Tree.....	3	419	325 03
Rat-hole.....	.....	1,200	75 44
Richmond Mining Company.....	32,275	1,000	1,461,044 95
Silver West.....	4	1,154	207 13
Smith & Co.....	26	176	6,430 08
Williams.....	11	1,012	1,224 72
Wilson.....	3	154	247 95
Other mines, names unknown.....	11	1,674	1,545 45
Total.....	.....	.....	3,184,599 40
ESMERALDA COUNTY.			
Alabama.....	3	.....	1,200 00
Brown Hope.....	820	.....	25,991 73
Columbia.....	5	.....	565 00
Death Valley.....	66	500	5,058 00
Gladden.....	2	1,000	320 00
Indian Queen.....	470	.....	72,104 04
Langhra.....	2	.....	224 00
Lida Belle.....	7	.....	763 00
Manton.....	1	500	456 00
Mount Diablo.....	38	1,500	1,638 00
Midas.....	60	.....	1,620 00
New York.....	2	.....	336 00
Northern Belle.....	4,362	1,088	344,108 08
Oriental.....	4	1,000	1,483 00
Pascal Burgas.....	2	666	495 04
Sarvana.....	2	.....	224 00
Turner and Matthews.....	7	1,500	2,325 09
Travis.....	61	1,000	5,897 31
Woodbridge.....	1	1,000	252 00
Whitton.....	7	500	1,350 33
Wheeler Mining Company.....	652	.....	16,748 41
Wilson Mine.....	37	500	1,806 11
Other mines, names unknown.....	36	786	5,678 24
Total.....	.....	.....	490,643 38
Tailings.			
Brown Hope.....	160	.....	1,801 00
Sweet Apple.....	500	.....	2,800 00
Total.....	.....	.....	4,601 00
Borax.			
Pacific Company.....	165	.....	16,500 00
Smith Brothers.....	824	.....	105,950 00
Total.....	.....	.....	122,450 00

(Gross yield of the mines of the State of Nevada, &c.—Continued.)

Name of mine.	Tons.	Pounds.	Value.
ELKO COUNTY.			
Austin Mining Company	8	.....	\$1, 128 00
Leopard Mining Company	1, 289	.....	112, 543 72
Mineral Hill Silver Mining Company	5, 213	979	156, 255 09
Total .....	.....	.....	269, 926 81
HUMBOLDT COUNTY.			
Arizona Silver Mining Company	5, 002	300	140, 707 84
Humboldt Mill and Mining Company	284	.....	14, 540 00
Jersey Mining Company	121	.....	12, 284 00
Luna Mine	8	1, 720	921 14
Millionaire Mining Company	80	300	3, 290 21
O. M. Evans	300	.....	12, 000 00
Oakland Gold and Silver Mining Company	300	.....	6, 000 00
Pride of the Mountain	234	.....	12, 050 00
Rye Patch Mill and Mining Company	1, 471	.....	86, 799 41
Total .....	.....	.....	288, 592 60
<i>Tailings.</i>			
Arizona Mining Company	4, 760	.....	24, 625 90
Rye Patch Mill and Mining Company	1, 270	1, 167	8, 820 64
Total .....	.....	.....	33, 446 54
LANDER COUNTY.			
Amador Mining Company	7	80	527 69
Battle Mountain Mining Company	624	953	55, 067 95
Cooper	18	272	5, 254 06
Chase	25	820	3, 793 72
Defiance	79	540	16, 357 78
Engstrom	11	1, 654	1, 718 36
Florida	92	784	15, 173 47
Freehold	81	1, 040	13, 194 38
Grove Tunnel	75	896	19, 366 62
Iowa	16	720	1, 971 96
Jack Screw	118	1, 248	32, 897 82
J. W. Trask	11	722	2, 732 63
J. A. Blossom	19	1, 000	796 00
Lone Star	12	1, 670	1, 941 73
Manhattan Silver Mining Company	5, 315	1, 745	591, 734 43
Morris and Cable Mine	22	1, 210	7, 180 24
Nevada Boy	17	1, 390	3, 260 83
Patriot	31	1, 920	5, 568 54
Pacific Mining Company	53	813	6, 991 78
Star Mine	123	.....	15, 990 00
South Sonoma	5	.....	1, 406 98
Stranger	34	1, 580	2, 886 29
Sonoma	12	860	1, 142 99
Tremonton	5	1, 420	1, 183 51
Warren No. 1	1	46	340 20
Whitlach	15	1, 448	3, 589 13
Yankee Blade	8	1, 280	1, 264 79
Other mines, names unknown	526	773	78, 274 09
Total .....	.....	.....	894, 607 97
<i>Tailings.</i>			
Manhattan Mill Company	20	.....	274 26
Alps	231	1, 329	824, 470 41
American Flag	336	760	8, 571 47
Barton Mining Company	8	75	521 84
Chapman	116	1, 000	8, 750 09
Chief of the Hill	71	1, 420	5, 209 03
Conqueror Mining Company	5	395	887 62
Chief, East Extension	9	1, 300	560 67
Douglas	4	.....	134 40
Desdamona	27	111	1, 571 61
Excelsior	22	1, 619	2, 466 15
George May	14	.....	659 00
Great Eastern	13	500	1, 171 28
Hercules	195	.....	1, 950 00
Huba and Hunt	146	230	3, 840 76
Havana	38	1, 230	1, 365 14
Ingomar	59	.....	118 00
Ivanhoe	22	1, 544	1, 239 82
Jolly Traveler	16	1, 500	316 00

Gross yield of the mines of the State of Nevada, &c.—Continued.

Name of mine.	Tons.	Pounds.	Value.
LINCOLN COUNTY.			
Kentuck	12	600	\$523 00
Little Giant	5	1,250	348 00
Magnet Mill and Mining Company	1,263	1,700	37,840 71
Mary Haynes	10	233	431 19
Meadow Valley Mining Company	6,617	1,411	300,834 07
Montgomery	22	947	1,656 83
Newark Mining Company	2,931	383	73,670 36
National	11	1,500	775 14
Ontario	54	333	3,456 41
Pioche	182	218	15,171 96
Pioche West	39	-----	1,280 00
Pioche Phoenix	9	900	663 00
Portland	22	1,780	1,152 15
Raymond and Ely	2,131	1,640	116,719 50
Spring Mound	44	-----	1,983 00
Sunny South	9	1,081	308 00
Silver Peak	98	1,500	2,546 67
Standard	7	575	229 55
Sau Pedro	8	400	536 28
Towne and Orr	6	1,200	419 85
Tempinte	1	1,500	499 80
Vermillion	24	1,998	1,157 93
Washington and Creole	418	169	29,480 55
Total	-----	-----	655,487 21
<i>Tailings.</i>			
Highland Consolidated Mining Company	60	-----	800 00
Meadow Valley Mining Company	6,647	46	102,527 22
Newark Mining Company	12,804	1,470	78,135 53
Raymond and Ely	29,660	246	84,300 71
Total	-----	-----	265,763 46
LYON COUNTY.			
Dayton Gold and Silver Mining Company	7,500	1,500	87,184 89
M. A. Cromer	100	-----	800 00
Santiago Mine	1,426	-----	23,468 00
Total	-----	-----	111,452 89
<i>Tailings.</i>			
Buckeye Gold and Silver Mining Company	530	-----	3,942 27
D. W. Humphreys	290	-----	5,050 00
Excelsior Mill	513	-----	4,179 95
French & Co.	176	-----	2,238 00
G. W. Dorwin	325	-----	6,648 97
Keystone Mill	930	-----	8,873 61
Lewis Hayes	83	-----	600 95
M. A. Hearne	357	-----	2,478 00
Lyon Mill and Mining Company	50,836	-----	176,322 34
W. H. Hill	30	-----	325 00
Woodworth Mill	3,100	-----	54,525 38
Total	-----	-----	265,184 47
NYE COUNTY.			
Belmont Mining Company	952	895	65,181 08
Eldorado Silver-Mining Company	1,285	800	42,387 28
Eldorado Nugget-Mining Company	8	-----	984 80
F. P. Coffin	700	-----	9,800 00
Gila Silver-Mining Company	594	820	145,739 54
Jefferson Mining Company	2,960	1,296	124,089 24
Lloyd Frizell	100	-----	1,660 00
Morey Mining Company	108	1,242	9,299 95
Monitor Mining Company	8	1,387	1,223 56
Monitor Belmont Mining Company	351	1,000	5,307 45
Prussian Gold and Silver Mining Company	2,458	235	63,515 30
Tybo Consolidated Mining Company	3,424	960	107,052 31
Twin River Consolidated Mining Company	86	-----	8,600 00
Other mines, names unknown	230	759	35,021 27
Total	-----	-----	619,861 78

Gross yield of the mines of the State of Nevada, &c.—Continued.

Name of mine.	Tons.	Pounds.	Value.
STOREY COUNTY.			
Belcher Mining Company	150,955	.....	\$5,498,985 55
Bowers Mine	955	.....	11,150 00
Crown Point	176,048	630	4,874,322 58
Chollar Potosi	17,825	.....	297,986 76
Consolidated Virginia	140,786	07	11,567,902 70
Empire	13,380	.....	177,890 00
Hale and Norcross	12,156	1,000	195,732 11
Justice	2,350	.....	19,000 00
Ophir	36,690	.....	1,018,236 16
Sierra Nevada	8,348	.....	41,169 68
Silver Hill	1,100	.....	8,906 17
Woodville	2,646	.....	39,529 07
Total .....	.....	.....	23,780,810 78
<i>Tailings.</i>			
C. C. Stevenson	755	.....	3,875 00
Express Mill	5,300	.....	50,229 00
Railroad Mill	6,370	.....	68,950 00
Union Mill and Mining Company	800	.....	3,305 25
Total .....	.....	.....	126,359 25
WHITE PINE COUNTY.			
Aultman	30	.....	1,200 00
Autumn	2	1,733	713 16
Alturas	2	1,294	791 89
Buckeye State	42	.....	3,831 41
Battery	160	573	15,907 23
Bartlett	8	1,415	1,434 60
Caroline	21	1,040	2,620 11
Chance	115	1,141	6,642 02
Cherry Creek Mining and Milling Company	165	.....	4,744 00
Chihuahua	50	.....	2,800 00
California North	18	.....	193 50
Dictator	5	1,630	986 00
Eberhardt and Aurora Company	9,442	1,910	473,660 00
El Capitan	16	1,600	1,522 00
Exchequer	43	970	2,408 42
Frederick William the Great	130	.....	975 00
Elijah	400	.....	17,500 00
Gray Eagle	8	1,500	995 00
Indian Jim	2	1,569	237 50
Mariposa	24	171	2,562 50
Maryland	1	1,469	172 00
Mazeppa	1	.....	168 39
Newark	36	1,500	3,352 13
Oro	49	.....	411 00
Mountain Queen	2	1,417	769 39
Pocotillo	6	1,915	560 00
Paymaster	10	.....	2,000 00
Rescue	191	641	42,608 99
San José	2,839	.....	35,294 13
Star	1,229	800	108,823 10
Silverstone	4	654	217 42
Silver Wreath and Lookout	110	.....	7,500 00
South Aurora	5	446	1,391 48
Silver Plate	12	.....	842 37
Tea Cup	407	1,614	54,272 00
Trench	20	898	5,066 86
Vulcan	5	1,102	461 70
Other mines, names unknown	7	1,128	586 43
Total .....	.....	.....	806,251 78
<i>Tailings.</i>			
Chihuahua	250	.....	330 00

RECAPITULATION.

Ores.		
Eureka .....	.....	\$3,181,599 40
Esmeralda .....	.....	490,643 38
Elko .....	.....	269,926 81
Humboldt .....	.....	288,592 66
Lander .....	.....	891,607 97

Gross yield of the mines of the State of Nevada, &c.—Continued.

Name of mine.	Tons.	Pounds.	Value.
Lincoln.....			\$65,5847 21
Lyon.....			111,452 89
Nye.....			619,861 78
Storey.....			23,780,810 78
White Pine.....			906,251 78
Total.....			31,099,234 60
<i>Tailings.</i>			
Esmeralda.....			4,601 00
Humboldt.....			33,446 54
Lander.....			274 26
Lincoln.....			265,763 46
Lyon.....			265,184 47
Storey.....			126,359 25
White Pine.....			330 00
Total.....			695,958 98
Total production*.....			31,795,193 58
<i>Borax.</i>			
Esmeralda.....			122,450 00

* Of this total about \$10,000,000 was probably gold.—H. R. L.

STATE CONTROLLER'S OFFICE,
Carson, Nev., September 16, 1875.

I hereby certify that the foregoing is a full, true, and correct statement of the yield of the mines of this State for the year commencing July 1, 1874, and ending June 30, 1875, as compiled from the quarterly reports of the several county auditors filed in this office.

Witness my hand and seal of office this 16th day of September, A. D. 1875.

[SEAL.]

W. W. HOBART,
State Controller.

STATE OF OREGON, EXECUTIVE OFFICE,
Salem, July 23, 1875.

SIR: I have the honor to acknowledge the receipt of your communication of May 6, 1875, requesting a detailed statement of gold and silver in this State for the fiscal year ending June 30, 1875.

The estimate of the production of gold and silver, for the period mentioned, in Eastern Oregon, is as follows:

<i>Baker County.</i>			
From placer-mines.....		\$540,000	
From quartz-mines.....		180,000	
From silver-mines.....		10,000	
			\$730,000
<i>Marion County.</i>			
From placer-mines.....		280,000	
From quartz-gold.....		25,000	
			305,000
<i>Grant County.</i>			
From placer-mines.....		300,000	
From quartz-mines.....		45,000	
			345,00
Making a total of gold and silver product of eastern Oregon of.....			1,380,000
To which add for the products of Jackson, Josephine, Douglas, Coos, and Curry Counties, in Southern Oregon.....			285,000
Making a grand total of.....			1,665,000

Very truly, your obedient servant,

L. F. GROVER,
Governor.

The DIRECTOR OF THE MINT.

STATE OF SOUTH CAROLINA, EXECUTIVE CHAMBER,
Columbia, August 11, 1875.

SIR: His excellency Governor D. H. Chamberlain directs me to acknowledge the receipt of yours of 6th May last, to say that it was referred to Prof. William Main, of the University of South Carolina, and that the inclosed is his answer.

Very respectfully,

W. R. JONES,
Private Secretary.

Hon. H. R. LINDERMAN,
Director of the Mint.

UNIVERSITY OF SOUTH CAROLINA, SCHOOL OF CHEMISTRY, &C.,
Columbia, S. C., June 29, 1875.

DEAR SIR: In reply to your communication of May 10, requesting me to prepare an answer to the circular of inquiry addressed by the Director of the Mint, I have to report that I have written to different persons in the counties where gold has been discovered. The reply in each case is, that the old mines have been totally abandoned.

I would report, therefore, that no gold or silver has been mined in South Carolina during the past year.

Very respectfully,

WM. MAIN,
Professor Chemistry and Geology.

Hon. D. H. CHAMBERLAIN.

UTAH.

[Copy of telegram from the governor.]

SALT LAKE, November 20, 1875.

DIRECTOR OF THE MINT,
Washington, D. C.:

Five million eight hundred thousand eight hundred and seventy dollars in silver; forty-three thousand and seven hundred dollars in gold; estimated a million more silver shipped from other points in Utah of which there is no record.

GEO. W. EMERY,
Governor.

STATE OF WISCONSIN, EXECUTIVE DEPARTMENT,
Madison, May 13, 1875.

SIR: Yours of the 6th instant, requesting a statement showing the production of gold and silver, respectively, in the State during the fiscal year ending on the 30th day of June, 1875, at hand and noted.

In reply, I have to inform you that, although small quantities of gold and silver have now and then been found within the State, yet it has never been found in paying quantities, or in such amount as to justify the preservation of any record or statement of its production.

Very respectfully,

W. R. TAYLOR,
Governor.

Hon. H. R. LINDERMAN,
Director of the Mint.

TERRITORY OF WASHINGTON, EXECUTIVE DEPARTMENT,
Olympia, July 26, 1875.

SIR: In reply to your request, of date May 7 last, for a detailed statement of the production of gold and silver in this Territory, during the fiscal year ending June 30, 1875, I have the honor to state that there is no silver mining carried on in this Territory.

The only production of gold is from placer mining, in the eastern portion of the Territory, on the Columbia River.

It is impossible to ascertain accurately the amount produced, as it is sold to brokers

at Lewiston, Idaho, and at The Dalles and Portland, in Oregon, and at Walla Walla, in this Territory. These brokers also purchase gold found in Oregon and Idaho, and many of them keep no record of the place of production.

From the statistics I have been able to obtain, I am of the opinion that the production of gold in this Territory, during the time referred to, was from two hundred and fifty to three hundred thousand dollars.

Very respectfully, your obedient servant,

E. P. FERRY,
Governor.

Hon. H. R. LINDERMAN,
Director of the Mint.

Total estimated domestic production of the precious metals for the fiscal year ending June 30, 1875.

Arizona	\$1,000,000
California	17,000,000
Colorado	5,472,000
Idaho	2,500,000
Montana	4,119,852
Nevada	31,795,193
New Mexico	1,000,000
Oregon	1,665,000
Utah	6,844,570
Wyoming Territory	250,000
Washington Territory	300,000
	<hr/>
	71,946,615

Of this amount it is estimated that about \$40,000,000 was gold.

APPENDIX No. 4.

Report of Prof. R. E. Rogers on the Consolidated Virginia and California mines—Report of Prof. R. E. Rogers on the equipment of the new refinery in the mint at San Francisco.

The Chinese tael—Test of Japanese coins—Decision of the United States Supreme Court on the valuation of the franc of France—Charges and deductions on silver-bullion shipped to London—Silver containing mercury—Money statistics. Finance Laws of January 14, 1875.

REPORT OF PROF. R. E. ROGERS ON THE CONSOLIDATED VIRGINIA AND CALIFORNIA MINES.

NOVEMBER 15, 1875.

SIR: In compliance with your request of November 1, 1875, that I would furnish you with a report of my examination of the Consolidated Virginia and California mines on the Comstock lode, at Virginia City, Storey County, Nevada, with my conclusions as to their probable total yield of gold and silver, based upon their present explored extent, and the quality of their ores as ascertained by assays, I would respectfully make the following statement:

My explorations through these mines were accomplished during two prolonged visits, made on separate days; one in company with yourself, and the other under the guidance of the superintendent. This was a work not merely of a general or superficial character, but of careful and laborious investigation, in which all the galleries and cross-cuts on the different accessible "levels" were critically inspected and scrutinized with reference to the body of ore that might be within view, and its appearance in point of quality.

Having an attendant along who carried bags for their reception, I gathered at frequent intervals, and labeled them, an extensive collection of specimens for assays.

The following brief description of the position of these mines, which lie in the same general line of ore body that constitutes what is commonly known as the "Comstock lode," may aid the mind in forming a better idea of their nature, and will serve to ex-

plain the principles which have guided the engineers and superintendent in laying off the work for exploring their extent and mining the ore.

The surface of the whole country around Virginia City is rough, broken, and hilly. At this immediate locality there is a long lofty range extension of the Washoe Mountains, at places many hundred feet in elevation above the plain, whose steep slope to the valley below faces toward the east, and whose general trend is north and south. About midway up the slope the croppings of the ore of these and of many other mines of the lode are visible.

The first excavations which were made in the early workings here were upon these croppings, but in due time it was discovered that the ore-body dipped toward the east in a measure parallel with the surface of the mountain-side, though having no physical nor geological relation to that superficial outline. As a consequence of this discovery, the present shaft, known as that of the Consolidated Virginia mine, was sunk at a point down the slope many hundred feet to the east of its outcropping.

It is from this shaft that all the ore from the Consolidated Virginia and the California Mines has been lifted, until the recent fire, which destroyed the hoisting-machinery.

The slope of the ore-body of these mines is from 40° to 47° toward the east, and its trend or line of length is nearly north and south, or in the direction of the line of the containing mountain-like range.

This being the relative position of the vertical shaft to the sloping body of ore, it is evident that no ore would be looked for in the descent until several hundred feet had been reached. In point of fact 1,300 feet of rock were passed through before any horizontal drifting was done to intercept the ore.

Ore of profitable richness having been met with at this level, (the 1,300-feet level as it is called,) the shaft was sunk to the depth of one hundred feet more, and a similar horizontal drift run in to test the continuance of the ore. Finding that the ore-body on this the 1,400-feet level was undiminished in abundance, and richer than that on the 1,300-feet level, the shaft was carried down a second hundred feet, with a view to explore a 1,500-feet level; and finally, under the encouragement afforded in every successive foot of descent, a double "winze" has been put down recently in the California Mine to a depth of 110 feet below the 1,550-feet level.

The shafts having been sunk successfully to the depths here indicated, the principle adopted for exploring and probing the extent of ore on each level was to run galleries and cross-cuts. The extent to which this judicious system has been carried is indicated on the four certified maps of the workings of these mines, accompanying the statement furnished to you by James G. Fair, superintendent of the two mines.

In the brief narrative of the progressive development of the mines above given, it is seen that by this only safe and satisfactory mode of testing the length, depth, and width of the ore-body, it has been rendered possible to block out in cubes of a hundred square each, the metal-bearing mass so far as penetrated to view, and to thus reach an approximate estimate of the probable aggregate ultimate product of gold and silver from these mines.

Since the maps are constructed to a scale, they exhibit quite clearly the quantity of ore that has been removed from the mines, relatively to the amount that remains untouched, assuming that the system of cross-cuts which penetrate the ore-body give correct data for such conclusion.

In speaking of these mines they have been referred to here in language common to both. The line which divides them is only a property boundary, there being two companies, but under one management. The ore is of the same character, and the east and west walls identical for them both.

The claim of the Consolidated Virginia Mine is 710 feet long, and that of the California Mine is 600 feet. The explored width of the ore-mass on the 1,500 feet level averages 250 feet.

The west boundary-wall is that of the mountain rock *syenite*. The east boundary, which can be scarcely termed a wall, is ferruginous clay.

The ore-body itself consists of a semi-crystalline, somewhat granular matrix of quartz, sometimes compact, but more commonly friable and easily crushed, crossed and coated over with whitish clay, containing the precious metals associated with several of the base metals and a variety of other substances.

The nodular and rocky masses scattered through the lode—at times of magnitude to form what is termed a "horse"—is a potash feldspar, and named by the miners porphyry.

The following may be stated as the composition of the ore-mass:

Quartz, the largest constituent, constituting the matrix or "gangue."

Gold, metallic.

Silver, metallic.

Silverglance, or sulphite of silver.

Polybasite, (silver, copper, iron, zinc, antimony, arsenic, sulphur.)

Stephenite, (silver, copper, iron, antimony, sulphur.)

Blende, (zinc, sulphur.)

Galena, (silver, lead, sulphur.)

Horn silver in small amount, (silver chloride.)

Alumina, (as clay.)

Carbonate of lime.

Sulphate of lime.

In this ore the gold is in the metallic state. The silver is metallic, and also as sulphide and chloride, and likewise in the complex mineral forms above named.

The iron, copper, lead, zinc, antimony, and arsenic are in a condition of combination with sulphur as sulphides of those metals.

The silica and clay are simply in mechanical association with the above.

At the works of the mines, as well as at the mills, all the ore delivered is sampled as fairly as possible, that the averages may be obtained for assays, for the purpose of adjusting the accounts between the mines and the mills.

With the data in our possession, and the maps before us, I may venture upon the following calculations, and estimate the total ultimate product of the gold and silver of the ore-body of these two mines.

On an inspection of the official surveys exhibiting the galleries and cross-cuts, it would seem fair to conclude that with proper allowances, the ore-body equals an amount which, taken at the actual assays, would give as the ultimate yield of the two mines, \$300,000,000; but to guard against a chance of overestimating, I take the assays at one-half that ascertained, which will place the production at not less than \$150,000,000.

With a view to make due allowance for interruptions to the continuity of the body of ore which lies between the 1,500 and 1,400 feet levels, the whole of the ore contained between the 1,400 and 1,300 feet levels is thrown in, and not embraced in the estimate. It may also be stated that the very promising ore developments below the 1,550-foot level, the assays of which run very high, have also been omitted in the calculations.

All of which is submitted by,

Very respectfully, your obedient servant,

R. E. ROGERS.

Hon. H. R. LINDERMAN,
Director of the Mint.

PHILADELPHIA, November 13, 1875.

SIR: I herewith transmit to you my report relative to the equipment of the refinery in the new mint at San Francisco, which, with the approval of the Secretary of the Treasury, you did the honor to intrust to me.

REPORT.

With a view to explain the various changes in the plan for the equipment of the refinery, which from time to time were determined upon, I deem it proper to give, briefly, its history from the time of its inception until its completion in August last.

In accordance with instructions received from you on the 19th of June, 1873, I visited San Francisco with a view to investigate the feasibility of erecting a sulphuric-acid refinery for gold and silver, in the new mint-building at that city, and, if found practicable, to make out plans and estimates for the construction of the same, and to ascertain the facilities for procuring supplies of acid and other materials used in the process. This work occupied me, including time of journey to and fro, from the 5th of August until the 20th of September of that year.

On the 15th of October ensuing I transmitted to you my report, with drawings designating the plans of the refinery, along with estimates of the cost of materials and workmanship, and subsequently, December, 1873, a supplemental report, bearing upon the special point of obliterating the noxious fumes of sulphurous and sulphuric acids.

Having, during the month of August, 1874, at your request, visited the New York assay office, with a view to determine the best mode of destroying the irritating acid-fumes there emitted during the process of refining by sulphuric acid, I was led to institute a series of carefully-conducted experiments, and came to the conclusion that, while in some respects the lime and dash-wheel system previously recommended for such purpose had advantages, it was attended by serious drawbacks, and that the remedy could be best obtained by extending the system of lead-lined condensing-chambers already in use, and such I recommended in a brief report submitted to you on September 4, 1874.

At a conference held at Washington, January 22, 1875, I again laid before you the results of the experiments above referred to, and the confirmation practically obtained at the New York assay-office, after the adoption of my suggestion to increase the capacity of the condensing-chambers.

Previous to this, viz, October, 1874, you had visited San Francisco, taking with you my reports and plans, and examined the extensive private refinery in that city, and the rooms intended for refining in the new mint.

With the facts thus collected by us both, it was decided by you and approved by the

Secretary of the Treasury, that the refinery of the San Francisco mint should be equipped upon the basis of the sulphuric-acid process, and according to the plans recommended by me October 15 1873, with the substitution of an extensive system of leaden condensing-chambers for the lime and dash-wheel arrangement.

On March 9, 1875, in compliance with a verbal request from you that I would state the terms and conditions on which I would superintend to its completion the equipment of the refinery of the new mint at San Francisco, I made to you my proposition, and had the honor to receive, on the same day, your reply, accepting the same, approved by the Secretary of the Treasury, and authorizing me to proceed without delay to prepare working-drawings for construction.

With a view to expedite the work, Mr. Frank Hetrich, of the San Francisco mint, was requested to bring with him my original drawings of the plans of the refinery, with other measurements, and to report to me in Philadelphia. On carefully reviewing those drawings and measurements, and availing myself of information bearing upon the subject, which I had procured from several manufacturers of sulphuric acid in this city and elsewhere, I came to the conclusion that the space heretofore contemplated for the erection of leaden chambers for the condensation of the acid fumes would be inadequate for the purpose.

It therefore became necessary to consider whether such leaden chambers might not with safety and propriety be placed upon the roof of the mint. To determine this point, on March 9th I visited Washington, and laid the suggestion before you, and was put in communication with the supervising architect. In his brief report to you on the subject, he stated that by removing the roof where required, and placing the condensing-chambers upon the iron rafters which made the attic floor, their weight could be safely supported.

With this information and the acquiescence of the supervising architect, it was decided by you that the chamber should be so located.

I accordingly entered upon a calculation for the dimensions and weight of lead and other materials, and the preparation of working-drawings for their construction.

In the progress of this work it became evident that a most formidable mutilation of a very large part of the roof would be involved; and besides this, a serious and apparently insurmountable obstacle would be encountered in the multitude of iron rods and ties, which, as braces, crossed the upper structure in almost every direction. After much serious thought over this embarrassing condition of things, and realizing the fact that, even with the best constructed condensing-chambers, it would be difficult to so entirely obliterate the acid fumes as to avoid some injury to the building and to the valuable coining-machinery it contained, and having previously, through many months of experiment, determined that, by certain modifications and improvements, the process of refining by nitric acid could be conducted with economy, I deemed it proper to communicate to you my belief that it would be advantageous to the Government to abandon the plan of refining by sulphuric acid, and to adopt the method by nitric acid.

This conviction, however, I would not have ventured to express, since it involved so radical a change from the previous plan, had it not been the result of mature consideration and satisfactory experiment.

In the usual mode of refining by nitric acid, all the nitric acid and other chemical substances used are allowed to go to waste and are lost to the Government; at the same time the nitrous fumes permitted to escape in the air are a source of great inconvenience to the surrounding population.

Having ascertained that the loss and inconvenience here referred to could be much abated, I invited the honorable Secretary of the Treasury and yourself to witness on a working scale the processes proposed to be introduced. The invitation being accepted, I had the honor, on the 28th of April, 1875, to exhibit to you—the Secretary of the Treasury being unable to be present—the improvements in question.

These were—

First, the partial recovery of a portion of the nitric acid;

Second, the destruction of those fumes that could not be recovered; and

Third, the precipitation of the silver from the nitrate of that metal by means of metallic copper, and the subsequent recovery of the copper at a remunerative price.

In view of this final demonstration in your presence of the feasibility of proposed modifications, I addressed to you a request on the 30th of April, 1875, that I might be allowed to substitute the nitric acid process of refining with the improvements indicated, in the place of the sulphuric acid method previously contemplated.

On the 3d of May following I received from you a communication authorizing me, with the approval of the Secretary of the Treasury, to make the change in the plan and process proposed in my request.

Under this authority, I left for San Francisco on the 10th of the same month, and reached that city on the 19th, and forthwith entered upon my duties.

While engaged in preparing more detailed working drawings than I had previously made, and ascertaining the most economical sources of supplies of materials for the

equipment and subsequent running of the refinery, I also devoted myself to the question, how far an arrangement could be made advantageous to the Government for the disposal of the by-product, nitrate of copper.

The solution of this question depended solely upon the demand likely to exist for bluestone, sulphate of copper, among the ore-crushing mills. An extended inquiry developed the fact that upon the contemplated scale of the refinery the amount of bluestone resulting from the decomposition of nitrate of copper by sulphuric acid would be so large as soon to overstock the market and render it either altogether unsalable, or so low in value as to be unremunerative. It was deemed proper, therefore, to so construct the refinery as to give it the double feature of producing the by-product nitrate of copper when commercially desirable to do so, and when found undesirable the regular nitric acid process, with the remaining improvements above alluded to.

The following description of the processes involved and the apparatus employed will render intelligible the entire construction of the refinery as now equipped and in active operation.

In refining by nitric acid, this acid is poured in proper quantities upon bullion in porcelain pots placed in rectangular lead-lined troughs, and surrounded by water kept boiling by means of steam-jets issuing from copper coils. The vigorous chemical action which ensues produces nitrate of silver, and evolves copious nitrous fumes. To prevent the escape of these into the apartment, each pot is covered with a stoneware lid, and the whole series inclosed in wood-work with sliding doors, the whole arrangement being termed the "corroding-house." Usually the nitrous fumes are allowed to pass into the chimney and to escape into the open air, and, if abundant, are likely to prove of serious annoyance. To correct this evil, I constructed a furnace for burning coke, in the attic above the room containing the corroding-houses, into which the acid fumes are conveyed and burned.

It is an interesting chemical fact that these fumes, so far from extinguishing the fuel, promote the combustion.

The solution of nitrate of silver is carefully decanted from the gold which remains at the bottom of each pot, and is transferred to large, round precipitating-vats.

To this solution of nitrate of silver a solution of common salt is added, which is brought by pipes leading from reservoir-tanks in the attic. The common salt, or chloride of sodium, produces, with the nitrate of silver, the chloride of silver and nitrate of soda. To cause the precipitate to subside rapidly, and to reduce it to that smooth, pulpy condition best adapted for filtering and washing, it should be thoroughly stirred and agitated. Heretofore this agitation has been performed by means of a species of scraper and manual labor.

Having a large mass of material, commensurate with the scale of the refinery to deal with, and seeking, as far as practicable, to economize in every detail, I constructed, in connection with the precipitating-vats, an arrangement of mechanical stirrers, driven by steam and reversible in their motion.

This arrangement consists, for each precipitating-tank, of a vertical revolving shaft, carrying a cross-arm with a number of vertical blades, which dip nearly to the bottom of the tank, and which, in their circular movement, give violent agitation to the contents.

The thin, pulpy chloride, while under constant stirring in these tanks, is next drawn off by stop-cocks into large filtering-boxes, and there thoroughly washed until all traces of nitrate of soda and free nitric acid are removed. The chloride of silver, thus purified, is transferred to lead-lined vats, and treated with the proper quantity of pure granulated zinc. A reaction here sets in between the chloride of silver and metallic zinc, whereby chloride of zinc is formed and metallic silver separated. This is called the "reduction process."

The vats in common use for effecting the objects just described are rectangular in form, and the mingling of the materials is accomplished by means of oar-like paddles worked by hand. This operation is laborious and tedious, and requires large space.

To meet these inconveniences, I have resorted to large, round, lead-lined tubs, in each of which is arranged a mixing-apparatus, somewhat similar to that used for stirring the precipitated chloride of silver already described.

When the reduction is ascertained to be complete, a small amount of sulphuric acid is thrown in, with a view to remove any metallic zinc that may have been left. The silver thus reduced to the metallic state is transferred to large tubs and thoroughly washed. The pulpy metal is carried to a hydraulic press and there compressed into solid cheese-form masses, and then heated to redness in a drying-oven, (the "silver-drying oven,") and finally melted and cast into bars.

In the mean time the gold, which has been left in the porcelain pots undissolved by the nitric acid, is to be further refined.

In the usual method for that purpose, it is treated a second and often a third time with nitric acid. The result thus obtained rarely exceeds, without much consumption of time and acid, a fineness of 995 thousandths.

To expedite the process and secure a greater fineness, and at the same time economize acid, I have modified the process by "finishing" the gold, as it is termed, by means of sulphuric acid. To this end I had constructed an arrangement of five furnaces or stoves, each supporting a small iron pot, and the whole covered in by a lead-lined boxing, to receive and carry off the acid-fumes.

In these pots the unfinished gold is placed, sulphuric acid poured upon it, and a boiling temperature maintained for some time.

The sulphuric acid unites with the silver, and forms the sulphate of that metal. This sulphate is poured off from the gold, the gold is washed with pure distilled water, pressed, dried, and melted into bars.

The concentrated sulphate of silver and the washings from the gold are treated with a solution of common salt, as in the case of nitrate of silver.

Since, for the operations of the refinery, reservoirs of ordinary hot and cold water, pure distilled water and salt and water are needed, I had constructed in the attic over the refinery capacious tanks for each, leading the liquids to their proper places for use by means of galvanized-iron and lead pipes.

Among the requisites of equipment of the refinery it was necessary to have constructed four gold and silver melting-furnaces, in the furnace-room of the melter and refiner, and one zinc-granulating furnace on the floor of the refinery.

To complete the furniture of the refinery, a small steam-engine was erected in the hydraulic-press room, for driving the press and the shafting for the chloride and the reducing vats. There was also constructed a line of settling-troughs, extending around the precipitating room, and likewise an extensive system of ramifying pipes, for distributing hot and cold water and salt water.

For the purpose of intercepting the last traces of the precious metals that are carried along by the filter-washing, &c., a large settling-vat was placed in the court-yard, and a smaller one in the basement.

Two strong cranes were built in the walls for carrying the gold-washing tubs.

The entire floor of the two main rooms has been covered with a thick bedding of asphaltum, and that of the hydraulic-press room and experimental laboratory have been covered with lead.

Of movable articles a number of trucks with gum-elastic tires were constructed, and also several dozen iron-bound buckets of different sizes for carrying the metallic solutions.

ARTESIAN WELL.

When we had approached to within a few weeks of the completion of the refinery, I entered upon a calculation of the probable amount of water which would be needed for its purposes, and ascertained that an amount would be required for the refinery alone equal to that already consumed for the general purposes of the mint, and that, therefore, the water-rent, already very large, would be increased to at least double when the refinery was put in operation.

In view of this fact, I suggested to you the feasibility of sinking an artesian well in the hollow square of the mint. You immediately authorized me to institute inquiries as to the cost of the same, and the probable supply of water that might be expected from that source.

Upon a favorable report made to you by me, you authorized me to negotiate for the sinking of such well.

In three weeks time the well was completed, with the water flowing over the stand-pipe several feet above the surface of the ground, and giving a supply of excellent water, amounting to about 100,000 gallons per day, a quantity more than sufficient for all the purposes of the entire mint. The well consists of an outer case, 12 inches in diameter, a pipe inside of this 10 inches, and a third one 8 inches in diameter. It is 174 feet deep, and cost \$1,500.

As it was necessary to have storage for this large supply of water, a tank 20 feet in diameter and 15 feet deep was sunk in the hollow court near to the well, and a small donkey steam-engine connected with it.

Four similar tanks, with equalizing tubes, were placed on the main attic floor of the building, and to these water is pumped, and then distributed by means of the pipes which were before used for the city water.

Although the city water is turned off, the connection with the main continues undisturbed, with a view to be ready for any emergency that may arise in connection with the well.

CONTRACT FOR ACIDS.

Having telegraphed to you on May 24, of the prospect of a rapid progress in the equipment of the refinery, I received from you in reply a telegram that it would be desirable to take steps for securing a supply of the acids that would be needed. (This telegram was confirmed by a letter from you of June 2.)

Accordingly, at a conference held with General O. H. La Grange, superintendent of the mint, that officer addressed a communication to the manufacturers of nitric and

sulphuric acids of San Francisco, requesting them to consult me as to the wants of the mint in that connection, and to make their bids in accordance with the conditions therein specified; said bids to be opened on June 3.

The persons so addressed were H. P. Wakelee, Judson & Co., and John Reynolds.

Each of those persons called on me frequently and had explained to them the specific points which the Government desired to embrace in any contract it would make.

They were requested to make their bids on the following basis, viz:

1. The price at which they would furnish daily to the United States mint, at San Francisco, from three to five thousand pounds of nitric acid, (30° Beaumé.)

2. The price at which they would furnish sulphuric acid, (63° Beaumé,) in quantities needed daily at the mint.

3. The sum they would credit the mint with for the nitric acid contained in the by-product, nitrate of copper.

4. The price which they would credit the mint with for the copper contained in the by-product, nitrate of copper.

On the 3d of June bids were handed in by H. P. Wakelee and John Reynolds.

Having on the same day been requested by the superintendent—who was disabled by sickness—to take charge of the bids, and to open them at the appointed hour, I received them, and, putting them into a sealed and indorsed envelope, placed them in the custody of Bernard Lande, in the hope that the superintendent might be able to be present the next day.

On June 4 the superintendent, being still ill, at his verbal request the bids were opened in the presence of Acting Superintendent B. Lande, Albert B. Linderman, esq.—named by Superintendent La Grange to act—and myself, commissioners, and H. P. Wakelee and John Reynolds, the parties bidding.

BIDS.

H. P. Wakelee offered in his bid to furnish the required supply of parting nitric acid at 9 cents per pound, and sulphuric acid at $3\frac{1}{2}$ cents per pound.

He made no bid in relation to the by-product, nitrate of copper.

John Reynolds offered in his bid to furnish the required supply of parting nitric acid at $8\frac{1}{2}$ cents per pound, and of sulphuric acid at $2\frac{1}{4}$ cents per pound. He likewise offered to receive and carry away the by-product, nitrate of copper, of a stipulated specific gravity, and to credit the Government with 3 cents per pound on the nitric acid and 17 cents per pound on the copper contained in the by-product, nitrate of copper.

The bid of John Reynolds, being more favorable for the Government than that of H. P. Wakelee, both as to the prices asked for the acids and in the matter pertaining to the by-product, the commission reported to the superintendent that John Reynolds was entitled to the contract. He was accordingly notified of the fact.

The actual work of construction and equipment of the refinery was commenced May 24 and completed July 26.

The operation of refining could have been commenced immediately thereafter, but for a serious accident to the glass ware in the acid-works of Mr. Reynolds, which delayed his delivery of the supply of nitric acid contemplated.

A temporary arrangement was made with Messrs. Wakelee & Judson to furnish jointly the required amount until Mr. Reynolds could repair his damages. Accordingly, early in August, the refinery was started regularly in its work.

Since many of the details of the process were more or less new to a majority of the persons employed in the refinery, I remained for some weeks, with a view to direct and instruct them.

On the 25th of August, feeling satisfied from the results obtained up to that time that the refinery was a success, and that its operation would thenceforward move on smoothly and without interruption, I turned it over to the superintendent as finished in its equipment.

I beg leave here to state that no pains were spared in the construction to economize in every detail, consistent with securing the best materials and workmanship, and deem it but proper to say, in this connection, that I received most efficient and valuable aid from A. B. Linderman, esq., whose business skill in the selection of material, and vigilance in superintending the work of the operatives, protected the Government from undue charges, and greatly expedited the completion of the work.

And I would further desire to state that in the performance of my duties I received the cordial co-operation of the superintendent and the melter and refiner of the institution.

The amount of gold refined in September was ninety-nine thousand one hundred and thirty-three $\frac{8}{100}$ (99,133.82) ounces.

The amount of silver refined, five hundred and twenty-eight thousand six hundred and ninety-two $\frac{8}{100}$ (528,692.08) ounces.

The amount of gold in October, seventy-three thousand one hundred and sixty-eight $\frac{41}{100}$ (73,168.41) ounces.

The amount of silver the same month, seven hundred and eighty-six thousand four hundred and twenty-three $\frac{5}{100}$ (786,423.54) ounces.

The cost of refining in October was \$16,000, or about $1\frac{8}{10}$ cents per ounce.

The average fineness of gold received from the refinery is 991 thousandths, and of silver 998 thousandths.

Respectfully submitted.

R. E. ROGERS.

Hon. H. R. LINDERMAN,
Director of the Mint.

TAEL OF CHINA.

LEGATION OF THE UNITED STATES,
Peking, September 21, 1874.

SIR: I received your dispatch of the 15th of January last, with a copy of your Report for 1873, and the circular exhibiting the values of the coins of various nations, and was gratified to learn that my former letter was of any use to you.

As your inquiries in the present letter could not be answered here, I prepared a circular for the principal ports, asking the consuls to get the desired information for you. A copy of this circular is inclosed.

Six answers have been received, of which I now inclose copies for your information, and make a few remarks on a few points which may otherwise be obscure.

The *tael-note*, spoken of by Mr. Coryell as unknown at Canton, is, I suppose, the bank-bill of that amount issued by the foreign banks, and not a native bill. At Canton, the Hong-Kong bank-bills for dollars are in common circulation, and are extending.

The word *haikwan* means "marine customs," and the tael taken at the custom-house for duties is supposed to be pure silver, but probably contains some alloy. The *hoo-ping* and *foo-ping*, spoken of by Mr. Henderson, of Amoy, and Mr. De Lano, of Foo-chow, are the same denomination, but their value seems to differ somewhat between the two ports. The *ku-ping*, noticed in Mr. Seward's letter, is also the same; the terms *hoo*, *foo*, and *ku* being only different pronunciations of the same word, meaning *treasury-scales*. At first, the *foo-ping* was probably the same as the *haikwan*, but has latterly deteriorated in weight.

You will perceive, from a comparison of these six reports, how confused and uncertain is the real value of the Chinese tael, the monetary unit, and it has been thus for ages. The same variations from any standard are found in their measures of length, capacity, area, and weight; and it is in vain to expect uniformity or accuracy until the people are more sensible of the evils of their present diversity.

I have only a faint expectation that these six reports will help you to arrive at a definite decision as to the real value of the Chinese tael.

I have the honor to be, sir, respectfully, yours,

S. WELLS WILLIAMS.

H. R. LINDERMAN, Esq.,
Director of the Mint, Washington.

[Inclosures.]

Circular of inquiries to consuls, May 4.

E. C. Lord to S. W. Williams, May 25.

M. M. De Lano to S. W. Williams, May 25.

A. E. Salter to S. W. Williams, May 26.

G. T. Seward to S. W. Williams, June 1, 1874.

J. J. Henderson to S. W. Williams, August 31, 1874.

J. R. Coryell to S. W. Williams, August 31, 1874.

J. C. A. Wingate, copy of report, September 10, 1874.

P. S.—The person spoken of in Mr. Seward's letter as having given a Canton monetary and commercial tael is Henry Rutter, a gentleman connected with the Commercial Bank at Hong-Kong for many years. His exchange-tables are in constant use in China and Japan.

LEGATION OF THE UNITED STATES,
Peking, May 4, 1874.

SIR: I have received a letter from H. R. Linderman, Director of the Mint, concerning the money of account used in China, in which, referring to my reply to a circular containing a series of inquiries upon coins, he asks for more specific details upon the following points:

How many different kinds of local or commercial taels are there?

What is the weight of each in grains troy?

What is the fineness or content of each metal?

Which kind of tael is most in use?

What was the average rate of exchange during the past year between the tael and the Mexican dollar?

What was the average rate of exchange between the tael and copper cash?

In this letter Mr. Linderman assumes the relative value of silver to gold as $15\frac{1}{2}$ to 1; and the weight of the tael of China as 579.84 grains troy; and represented by fine silver or nearly so, thereby making its value in United States money \$1.61, and asks, is this correct? The tael referred to is the *Haikwan* tael, and you may be able to give some information respecting its influence in maintaining the purity of the common sycee.

The practical use to be made of the information when obtained is set forth in the following extract from his letter:

* * * "After the 1st of January, 1874, foreign invoices at our custom-houses are converted into the money of account of the United States upon the basis of the relative quantity of pure metal declared by law to represent the various monetary units. Hence the importance of our being fully informed upon the subject of foreign moneys of account."

If you can obtain any reliable information upon these various points which will assist the Director of the Mint, please forward it to me as soon as convenient.

I am, sir, your obedient servant,

S. WELLS WILLIAMS.

United States Consul.

UNITED STATES CONSULATE,
Ningpo, May 25, 1874.

SIR: I beg to acknowledge the receipt of your communication of the 4th instant, desiring information on the following points:

1. How many different kinds of local or commercial taels are there?
2. What is the weight of each in grains troy?
3. What is the fineness or contents of each of pure metal?
4. What kind of tael is most common in use?
5. What was the average rate of exchange during the past year between the tael and Mexican dollar?

6. What was the average rate of exchange between the tael and copper cash?

I will reply to these several inquiries, so far as I am able, in the order in which they stand.

1. There are three kinds of taels in use at this port, viz:

- a. The *Haikwan* tael, or the tael used in transactions connected with the customs.
- b. The *Shanghai* tael, or the tael used in the ordinary mercantile transactions at that port, and of course having much to do with exchanges between that port and this.
- c. The *Ningpo* tael, or the tael used in the ordinary mercantile transactions of this port.

2. I am not able to state the weight of each or any of these taels in grains troy.

3. Nor am I able to state what is their fineness or contents of pure metal.

4. The tael in most common use here should, of course, be the *Ningpo* tael, the *Shanghai* tael being in use only in the way of exchange, as sterling money is used in exchanges between England and America. The *Haikwan* or custom-house tael is, of course, largely used, and, from its connection with the general government, it would seem to be the most important one.

5. I cannot state definitely what the average rate of exchange has been during the past year between the tael and the Mexican dollar. But the present rate may, perhaps, be an approximation sufficiently near for all practical purposes. It is as follows:

100 *Haikwan* or custom-house taels are equal to 151.87 Mexican dollars.

100 *Ningpo* taels are equal to 143.50 Mexican dollars.

100 *Shanghai* taels are equal to 136 Mexican dollars.

6. The average rate of exchange between the tael and the copper cash during the past year I can only give in the same way—that is, by supposing the present rate to be an average one. Then the rate is as follows:

A *Haikwan* tael has been worth 1,863 copper cash.

A *Ningpo* tael has been worth 1,765 copper cash.

A *Shanghai* tael has been worth 1,673 copper cash.

I have the honor to be, sir, your obedient servant,

EDWARD C. LORD,
U. S. Consul.

S. WELLS WILLIAMS, LL. D.,

Chargé d'Affaires, United States Legation at Peking.

UNITED STATES CONSULATE,
Foochow, May 25, 1874.

SIR: I have the honor to acknowledge your dispatch of the 6th instant, containing a list of inquiries in regard to the money of account used in China, and asking me for such information as I might be in possession of upon the several points.

First. The number of different taels known to me is five, viz, the Foochow tael, the Hooping tael, the Haikwan tael, the Canton, and the Shanghai.

Second. Foochow tael, 740.66 equal \$1,000; weight of each tael in troy grains 391.83.

Hooping tael, 723.81 equal \$1,000; weight of each in grains troy 363.42.

Haikwan tael, 715 equal \$1,000; weight in grains troy 1359.04.

Canton tael, 717 equal \$1,000; weight of tael, grains troy 1360.

Shanghai tael, 720 equal \$1,000; weight of tael in grains troy 1347.04.

Third. Impossible to answer, as the fineness differs in each shoe.

Fourth. Canton taels are most in use.

Fifth. The average premium paid in Mexican dollars for taels of sycee for the last year has been, at Foochow, say $5\frac{1}{2}$ per cent.

Sixth. Average rate of exchange between the tael and copper cash, 1,550 per tael.

I am, sir, your obedient servant,

M. M. DE LANO,
United States Consul.

Hon. S. WELLS WILLIAMS, *&c.*, *&c.*, *&c.*

UNITED STATES CONSULATE,
Chin-kiang, May 25, 1874.

SIR: I have had the honor to receive your dispatch dated May 4, 1874, and in answer would state that the difference of exchange between this port and Shanghai is in $\frac{2}{4}$ sycee silver, 6 per cent., or a difference between the current tael used in business here and the Haikwan tael of 5.4 per cent. This rate of exchange does not vary throughout the year.

The average rate of exchange during the past year (1873) between the tael and Mexican dollar was seventy tael cents to the dollar, and between the tael and copper cash, 1,860 of the latter to one of the former.

I have, &c.,

A. E. SALTER,
United States Vice-Consul.

Hon. S. WELLS WILLIAMS.

UNITED STATES CONSULATE-GENERAL,
Shanghai, June 1, 1874,

SIR: Referring to your letter of May 4, asking for information concerning moneys of account at this port, I have the honor to respond as follows:

1. How many kinds of local or commercial taels are there?

There are four taels known at this port:

Kuiping or Shanghai tael.....	100.
Tsao-ping, (little used).....	107. 14. 3
Ku-ping, (little used).....	109. 60
Kwang-ping or Haikwan tael.....	111. 40

2. What is the weight of each in grains troy?

Rutter gives a "Canton monetary" and a "Canton commercial" tael, the one weighing 579.84 grains troy, the other 583.33 grains troy.

A late assay at the Customs Bank at Canton (September 27, 1873) made 100 trade-dollars' weight taels 72.68. At this rate, the tael would be as 72.68: 100:: 42,000 (the weight in grains troy of 100 trade-dollars) to the answer, say 577.875. The Haikwan tael is supposed to be a tael's weight of pure silver. So I may suppose that the weight of a Haikwan tael is 577.875 grains troy. I have no means to judge of the weight of the other taels used at this port.

3. What is the fineness or contents of each of pure metal?

I believe that the Haikwan tael is considered pure silver. I have no information in regard to the fineness of the other taels.

4. Which kind of tael is most in use?

The Shanghai tael is exclusively used. When other taels are to be paid, the Shanghai tael is delivered at such discount as is shown in the table given in answer to the first question.

5. What was the average rate of exchange between the tael and the Mexican dollar during the past year?

The average rate of exchange between Shanghai taels and Mexican dollars was,

during 1873, 75.64. To arrive at this result, I have taken the rate on the 15th of each month and struck an average accordingly.

6. What was the average rate of exchange between the tael and copper cash?

Copper cash, or more properly cash, are of such uncertain size and value that it would be difficult to state an average of exchange as desired, nor is this of the slightest consequence to Mr. Linderman, as the cash never comes into the commercial calculations of foreigners, at least into their invoices.

If my calculation of the weight of the Haikwan tael be correct, Rutter's estimate of the value of the tael is somewhat excessive. Assuming it to be correct, and certainly there is as much probability of Rutter's estimate being right as of mine, the Shanghai tael would be equal to 144.52 gold.

There is certainly no perfect accuracy in Chinese weights or assays. They have no scales sufficiently well adjusted, no weights compared with a standard. Neither, on the other hand, have they adequate appliances to assay. At Canton, the difference of two grains in a tael (the difference between Rutter's computation and that given by me) is a commentary on one point; and the fineness declared in the recent assay is another. The assay gives the trade-dollar a fineness of .8961, instead of .900. The wonder is that the Chinese assayist should be so nearly right. I have been trying to get an assay of the trade-dollar made here, but so far without success. I think they hesitate to undertake it, knowing that their assays are not so accurate as ours.

I have the honor to be, sir, your obedient servant,

GEO. F. SEWARD,
Consul-General.

S. WELLS WILLIAMS, LL. D.,
United States Chargé d'Affaires, Peking.

UNITED STATES CONSULATE,
Amoy, August 31, 1874.

SIR: In response to inquiries addressed to me per your letter of May 4 concerning the money of account in use at this port, I am at last able to submit the following:

There are two kinds of tael in use, the foo-ping or commercial tael, and the haik-wan tael. One hundred foo-ping taels are reckoned as ounces 120 dwts. 16 grains troy. They each contain from 92 to 93 per cent. of pure silver.

The haik-wan tael is used for the payment of duties, but the commercial tael is most used. The average rate of exchange during the past year between the tael and Mexican dollar has been 100 taels equal \$137.93.

The foo-ping tael is equal to 1,550 to 1,530 copper cash. The haik-wan tael is equal to 1,735 copper cash.

I am, sir, your obedient servant,

J. J. HENDERSON,
United States Consul.

Hon. S. WELLS WILLIAMS, &c.

UNITED STATES CONSULATE,
Canton, August 31, 1874.

SIR: I have been unable to gain sufficient information respecting the tael to answer the questions put by Mr. Linderman.

The dollar, in Canton, is the only monetary medium actually in circulation. Duties are reckoned in haik-wan taels, but always paid in dollars. Tea is bartered for in taels, but the actual payment is made in dollars, and always at the rate of 100 for 72 taels. All other articles are bartered for dollars.

Between themselves the Chinese buy and sell in taels, and the value of the tael varies according to the agreement between the parties; so that the number of local or commercial taels (actually a false expression) is uncertain. The tael note known at other ports in China is not used here. All invoices of goods go forward from this port valued in Mexican dollars, thus showing the money actually paid.

I have the honor, &c.,

J. R. CORYELL,
Vice-Consul.

Hon. S. WELLS WILLIAMS, &c.

Information in relation to the different kinds of tael used at Swatow, prepared by the customs banker and linguist.

There are five kinds of commercial tael, viz, chih-ping or market tael, shan-ping, kinn-ping, yang-ping, used by foreign hong, and tu-ping, used by opium-dealers.

The haik-wan tael is taken by the enstoms as the standard weight, and all dues and duties are paid in haik-wan tael's weight of pure silver. When paid in Mexican dollars a premium of 10 per cent. is charged for impurity.

One hundred taels of haik-wan sycee are equal to 110 taels' weight of Mexican dollars. Estimated at 7 mace 2 candareen each, \$152.78 are equal to 100 taels. The haik-wan tael is also called kn-ping, or treasury scale.

A chih-ping tael is 1.1 per cent. lighter than the haik-wan.

A shan-ping tael is 1.96 per cent. lighter than the haik-wan.

A kin-ping tael is 1.3 per cent. lighter than the haik-wan.

A yang-ping tael is 3 per cent. lighter than the haik-wan.

A tu-ping tael is 1.03 per cent. lighter than the haik-wan.

One hundred taels of haik-wan sycee are equal to the following sums in dollars of the other kind of scales :

Chih-ping, 111.210 taels' weight of dollar silver.

Shan-ping, 112.156 taels' weight of dollar silver.

Kinn-ping, 111.430 taels' weight of dollar silver.

Yang-ping, 110.330 taels' weight of dollar silver.

Tu-ping, 111.133 taels' weight of dollar silver.

The weight of each in grains troy has not been made out. Foochow sycee is the best ; it contains, according to assay, about 3 per cent. refuse.

The chih-ping tael is most in use ; one chih-ping tael is equal to \$1.42857. In copper cash about 1,500 equal one chih-ping tael, and about 1,668 copper cash are worth one haik-wan tael. This was the average rate of exchange during the past year.

The price of pure gold is \$17.3 for a tael's weight of gold.

J. C. A. WINGATE,
United States Consul, Swatow.

UNITED STATES CONSULATE,
Newchwang, March 31, 1875.

SIR : With regard to the value of the tael of Shanghai and the tael of China, information on which I am apprised by the consul-general's letter of the 1st of December last is desired by the Department of State, I know that our consuls residing at the southern ports, where are established both native "kin-koos" or government assay-offices and foreign bankers as well, will be better able to furnish reliable information than I can from this place.

With reference to the currency of this port, some information of which may be servicable to the Assistant Secretary of the Treasury, I inclose a copy of a portion of my dispatch No. 211, on the subject, addressed to the honorable ex-minister Mr. Low, on the 18th of October, 1870, the contents of which require, I believe, no revision at this date.

I also inclose two copies of prices-current or trade-circulars published at this port.

I have the honor to be, sir, your obedient servant,

FRANCIS P. KNIGHT.
Consul.

Hon. ASSISTANT SECRETARY OF STATE,
Washington, D. C.

UNITED STATES CONSULATE,
Newchwang, October 18, 1870.

SIR : I have the honor to acknowledge the receipt of your dispatch of the 27th of August last, and now beg to hand you the following replies to the points therein on which your excellency desires accurate information :

1. A Newchwang tael weighs 600.71 grains 424 dec. This result I ascertain by assuming a Canton tael to weigh 579 grains 84 dec., and calculating the difference of 3 candareens 6 cash per tael weight, Newchwang weight being 3 candareens 6 cash per tael larger than at Canton. I inclose herewith a tael weight of silver by Newchwang scales, which weighs on a pair of apothecaries' balances—I suspect, however, these balances are not very sensitive—598½ grains troy.

2. The fineness of the Newchwang sycee in common use is 9,528 thousands touch. Since this port has neither kin-koo nor touch, and the local bankers have no knowledge of accurate parting assay, I could only arrive at the above result by ascertaining the Shanghai kin-koo's touch. That official gives the touch of one shoe of Newchwang sycee of 52 taels Shanghai weight at 2 taels 4 mace per shoe.

3. One thousand Mexican dollars are worth 720 Newchwang taels. This value fluctuates ; when dollars are plentiful the rate may be reduced to 70 taels 5 mace per \$100.

Foreigners always account them at 7 mace 3 candareens per tael ; if they exceeded that value, sycee would be used ; 705 to 720 taels per \$1,000 may be considered the limits of the values of \$1,000 here. Sycee is the currency of this port.

Dollars cannot be used in any large quantity for purchase of cargo, but only for ships' disbursements, and in other small transactions. Chop dollars are ordinarily worth only from 65 to 68 candareens per tael.

4. Newchwang ingots or shoes are fabricated in the town by private bankers. Any one possessing silver may engage in the business without license or hinderance.

If it be discovered, as it will be almost to a certainty by the guilds, that a banker's sycee is of a low standard, his chop, *i. e.*, his name and the value impressed on the shoe, will be in bad repute, and his business will suffer in consequence.

In fact the only check on a fraudulent banker or sycee fabricator and designer is the fear of losing the character for honesty once acquired.

5. The Newchwang ingot or shoe is supposed to weigh 53 taels 5 mace. But without a more elaborate process of coining, the shoes vary from 53 taels to 53 taels 9 mace.

6. The average rate of exchange on Shanghai is from 4 to 4½ per cent. discount for 10 days' sight bills.

7. One thousand Newchwang taels weigh in Shanghai 932 taels 4 mace; a difference in scales of 17 taels 60 mace, or nearly 2 per cent.

8. Current accounts are invariably kept in taels.

9. Fine silver is never brought to this market. If California silver be brought here for trade purposes, the bars should be of uniform weight. The bankers will then melt one or two from the number, and when they see that the standard and weight are according to representation, the balance will probably be accepted as stamped.

10. The relative value of copper cash compared with sycee fluctuates daily. The range of the past year, a high one, owing partly to the scarcity of silver, has been from 1,632 to 1,900 cash per tael. The average has been 1,760.

I may add that the custom of this port permits any shop, merchant, hong, or banker to issue paper "teon" or cash notes. But when these notes are presented for copper-cash exchange, the custom also allows the banker or issuer to pay out only 20 per cent. in coin and the balance of 80 per cent. in the paper notes of his neighbor.

If these 80 per cent. of notes are presented and cash is refused on the same day before dark, the first merchant or banker must receive them back and make the amount good. But if these 80 per cent., say, of notes are not presented for exchange until the day following, and the holder then finds the doors of the merchant or banker insolvently closed, he himself bears the loss.

As any hong may issue these "teon" (cash) notes, those made by people of undoubted standing only are kept, whereas the issue of questionable shops is soon got rid of.

Fraudulent paper "teon" or cash notes will not be cashed by the people on whom the fraud is attempted, but as every one engaged in the business places his chop on any notes coming into his hands, these chops on fraudulent paper are traced back as far as possible by date to the original issuer, who is held responsible.

Although I know you to be well informed of the process of fabricating ingots at Tientsin and Peking, doubtless a process which is the same as that in use here, equally unskilled and imperfect, yet if any of the bankers here were melting and coining at the present time I should attempt a description of their manner of handling the metal.

Beyond this I am diffident of adding more detailed information touching the subject-matter of this letter, and the more particularly so as you have at your right hand the compiler of the Chinese Commercial Guide, a volume of rare value to all interested in China.

The most short-sighted must realize how great is the want of a sterling standard in this country, and it would appear that China can find no better way of indicating her advance in civilization than by taking further steps in the fabrication of her coin, the external features of which may not be of immediate importance, whereas its uniformity of fineness would be of lasting benefits to her commerce.

FRANCIS P. KNIGHT,
United States Consul.

His Excellency F. F. Low,
United States Minister, Peking.

TEST-COINAGE OF JAPAN.

MINT OF THE UNITED STATES AT PHILADELPHIA,
Assay Department, November 9, 1875.

SIR: The following is the result of assays of samples of Japanese gold and silver coins, as requested by the Department of State, through the Director of the Mint.

I set down the assays of the mint of Japan, as well as the assays made here, for the sake of comparison.

Gold.

	Japan assay.	U. S. assay.
5-yen, (single piece)	899.8	900.0
5-yen, (another)	900.1	900.3
5-yen, (another)	900.3	900.4
Quantity melted together	900.05	900.1

Silver.

Silver yen	900.6	900.6
Another	900.4	900.4
Another	900.0	900.2
Trade-dollar	900.0	900.4
Another	900.4	900.4
Another	900.3	900.8
Silver yen, quantity melted	900.6	900.4
Trade-dollar, quantity melted	900.2	900.6
20-sen pieces, quantity melted	799.9	799.2
10-sen pieces, quantity melted	800.7	800.0
5-sen pieces, quantity melted	800.1	800.6

We consider the correspondence very satisfactory.

Herewith are returned the slips of gold and silver not used. The ductility of the metal is worthy of remark.

Very respectfully,
(Signed)

WM. E. DUBOIS,
Assayer.

Hon. JAS. POLLOCK,
Superintendent, &c.

SUPREME COURT OF THE UNITED STATES.

No. 549.—OCTOBER TERM, 1874.

<p>CHESTER A. ARTHUR, COLLECTOR OF THE PORT OF NEW York, plaintiff in error, <i>vs.</i> AUGUSTE RICHARD AND WILLIAM E. ISELIN.</p>	<p>In error to the circuit court of the United States for the southern district of New York.</p>
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Mr. Justice BRADLEY delivered the opinion of the court.

This was an action at law brought to recover from the defendant, collector of the customs at the port of New York, (who is the plaintiff in error,) an alleged excess of duties on imported goods exacted by the defendant and paid by the plaintiffs under protest. Judgment was given in favor of the plaintiffs, and to reverse this judgment this writ of error is brought. The case upon which the ruling complained of was made was substantially as follows:

On the 16th day of March, 1874, the plaintiffs entered at the custom-house an invoice of goods imported from France, the value of which was invoiced in francs of the currency of France. By an act of Congress passed May 22, 1846, §1, (9 Stat. at Large, p. 14,) it was provided that "in all computations at the custom-house, the franc of France and of Belgium shall be estimated at 18 cents 6 mills." At this rate of estimation of the French franc in money of account of the United States, (which was contended for by the plaintiffs,) the dutiable value of these goods was less than 20 cents per square yard, and therefore subject to an *ad-valorem* duty of 35 per cent., and an additional duty of 6 cents per square yard.

On the other hand, the defendant relied on the act passed March 3, 1873, entitled "An act to establish the custom-house value of the sovereign or pound sterling of Great Britain, and to fix the par of exchange, (17 Stat. at Large, p. 602,) by which it was enacted as follows:

"SECTION 1. That the value of foreign coin, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value, and the values of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and proclaimed on the first day of January by the Secretary of the Treasury.

"SEC. 2. That in all payments by or to the Treasury, whether made here or in foreign countries, when it becomes necessary to compute the value of the sovereign or pound sterling, it shall be deemed equal to four dollars eighty-six cents and six and one-half mills, and the same rule shall be applied in appraising merchandise imported, when the value is by the invoice in sovereigns or pounds sterling, and in the construction of contracts payable in sovereigns or pounds sterling; and this valuation shall be the par of exchange between Great Britain and the United States; and all contracts made after the first day of January, eighteen hundred and seventy-four, based on an assumed

par of exchange with Great Britain, of fifty-four pence to the dollar, or four dollars forty-four and four-ninth cents to the sovereign or pound sterling, shall be null and void.

"Sec. 3. That all acts and parts of acts inconsistent with these provisions be, and the same are hereby, repealed."

Under this act the Director of the Mint prepared two tables, one showing the standard value of foreign coins and moneys of account, according to the amount of pure metal contained therein, as provided in the first clause of section 1; and the other showing the weight, fineness, and value of certain foreign coins in actual circulation, as assayed at the Mint, exhibiting a slight diminution of the values contained in the first table. The Secretary of the Treasury, by a circular letter addressed to the collectors of the customs, declared that the values contained in the first of these tables would be used in the computation of customs duties from and after the 1st of January, 1874. This made the value of the franc 19 cents and 3 mills, which carried the dutiable value of the plaintiffs' goods above 20 cents per square yard, and subjected them, in consequence, to an *ad-valorem* duty of 40 per cent., and an additional duty of 8 cents per square yard. The defendant required the plaintiffs to pay duties in accordance with this latter valuation.

The court decided that the case was to be governed by the act of 1846, and that the act of 1873 does not cover or embrace it. The correctness of this decision is now before us for review.

Of course the act last in date must prevail if it covers the case. Its language is therefore to be carefully examined. The important words of the first section are as follows:

"The value of foreign coin, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value."

The plain meaning of this language is that the value of foreign coins, in United States money, shall be measured by the amount of pure metal contained therein when of standard value; that is, when of the weight and fineness required by the laws and regulations of the country where they are produced. This value, having been duly ascertained and published by the Director of the Mint and the Secretary of the Treasury, becomes the rule in the cases and for the purposes to which, according to the fair meaning of the act, it is to be applied. In what cases and to what purposes it is to be applied is not expressed by the statute, but is to be gathered from its general terms, from the context, and from an examination of other statutes passed in *pari materia*. The Government contends that it is to be applied in all cases where the estimation of the value of foreign moneys of account is required by law; and that its principal, and perhaps most important purpose, is the very one in question, namely, the estimation of the invoice values of imported goods, chargeable with *ad-valorem* duties.

This would seem to be, *prima facie*, the correct construction of the act. The second section proceeds, at once, without any inquiry of the Director of the Mint, or any further investigation of the subject, to adopt this very method of computing the value of the sovereign or pound sterling, the most important foreign coin with which the financial operations of this country are concerned, and to direct that such computation shall be applied to the valuation of invoices of imported goods, and to other specified cases in which the value of the pound sterling is necessary to be ascertained. The value of the sovereign or pound sterling fixed by this section is four dollars eighty-six cents six and a half mills. This is precisely its standard value computed in reference to the amount of pure metal contained in it when of standard value, according to the mint regulations of England, and estimating that metal according to the amount contained in the United States dollar. Although the sovereign or pound sterling as a coin has only existed since the year 1817, the amount of pure gold contained in the pound sterling (estimating the guinea at twenty-one shillings) has been 113.001 grains ever since the year 1717; and as the United States dollar contains 23.22 grains of pure metal, it only requires a process of simple division to show that the value of the sovereign is precisely what the second section of the act determines it to be. This intrinsic value of the pound sterling, as represented by the gold coins of England, was a matter of such public notoriety as to need no extraneous inquiry on the subject. It was the public law of the British empire, during the period of our own colonial history, of which all our courts were required to take judicial notice; and its continuance to the present time is a public fact as well established as any other act of the British government. In addition to this, the Finance Committee of the Senate, in reporting the act of 1873, stated the value of the pound sterling, computed in the manner referred to, as an ascertained fact. There were also other reasons, if any were needed, having respect to the fictitious par of exchange so long persisted in by the bankers of both countries, which made it expedient for Congress itself to fix the value of the pound sterling. But the material fact in this inquiry is that it fixed that value on precisely the same principle which it is claimed by the Government is laid down in the first section for ascertaining the value of all other foreign coins, and specified the purposes to which such valuation should be applied, among which is that of computing the value of invoices of imported goods. And it seems to us clear that the two sections have, in this regard,

substantially the same objects in view ; that it was the object of the first section to establish a method of computing the value of other foreign coins similar to that employed in the second section in computing the value of the sovereign, and to apply such computation in the same cases and for the same purpose. Otherwise there would exist two differing methods of computing the values of foreign coins, and two differing rules for estimating the values of goods imported from different countries, giving a different value to goods imported from one country from that given to goods of the same cost imported from another country.

And it seems to us (although that is a matter of legislative cognizance) that the statute adopts the true method of computing the value of foreign money. The basis of our dollar of account (when not affected by the exceptional condition of legal-tender notes) is the standard gold dollar of 25.8 grains, containing one-tenth alloy. The actual coinage in circulation may be slightly diminished in value by abrasion, and this may have some effect on the dollar of account. But the same thing is true in other countries, as the assays at the mint have shown ; and the true method of comparing their money of account with ours, when both are based on actual coin, is to compare the standard coins of the two countries in a perfect state, and to ascertain the actual amount of pure metal in each. This is the result at which Congress seems to have arrived, and, as we think, wisely.

In making the comparison of the moneys of different countries, their gold coins, if they have such, are employed for the purpose ; gold having become the general medium of international exchange, while silver is regarded more as a domestic coin, and is usually made a legal tender for only limited amounts. This practice, together with the rejection of the alloy from the estimate, is in accordance with the rules laid down on the subject by the most enlightened economists.

Computed in the manner required by the law, the value of the franc is ascertained to be 19 cents 3 mills, as contended for by the Government. This is the result of the examination and estimate made by the Director of the Mint, and announced by the Secretary of the Treasury.

But the defendants in error insist that an examination of prior statutes on the subject of coins and their valuation demonstrates that the act of 1873 was not intended to fix the value of the franc, or of other foreign coins, for the purpose of ascertaining the amount of invoices of imported goods, but for the purpose of giving general information on the subject, or of estimating the value of contracts in legal proceedings, or for some other purpose.

We have carefully examined the statutes for the purpose of ascertaining the soundness of this suggestion ; but have failed to see anything in the legislation on the subject requiring us to adopt it. It is true that some of the laws have had for object simply the valuation of foreign coins for the use of the custom-house in computing the amount of invoices ; others have fixed the value of such coins when receivable in payment of public dues, or when used as legal tenders in the payment of debts ; and others have had still other purposes and objects. But how this general fact can affect the express mandatory terms of the act of 1873, we fail to perceive. Those terms are that the value of foreign coin, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value. This simple and sensible rule abrogates previous regulations on the subject. It is inconsistent with them, and the third section of the act expressly repeals all acts and parts of acts inconsistent with its provisions. No resort to a repeal by implication is necessary.

Of course the act of 1873 does not make foreign coins receivable in cases where they were not receivable before ; but where they are receivable, or where their value is material to be known, the rule for ascertaining that value is clearly laid down and determined by the law. It is true it does not itself fix the values of foreign coins, except in a single instance where special reasons require it ; and it is doubtful whether the attempt to do so would have been as judicious as the method adopted. Those values are now to be carefully ascertained and publicly announced by the proper officers of the Government. This method will insure the greatest accuracy, and will be attended with many public benefits. It is just, both to the Government and the importer, because it is founded on truth ; and it will be a great convenience to all persons who have any transactions in which the value of foreign money is in any way involved.

The judgment must be reversed and the record remitted, with directions to the circuit court to award a *venire de novo*.

CHARGES AND DEDUCTIONS ON SILVER BULLION SHIPPED TO LONDON.

UNITED STATES ASSAY-OFFICE,
New York, October 18, 1875.

SIR: Referring to your letter of the 15th, I herewith furnish such information as I have been able to obtain as to the charges and deductions on silver bullion shipped to London.

1st. As to melting and assaying: Every bar of fine or Doré silver, regardless of its weight, is subjected to an assay charge of 3s. 6d. sterling. Assays are made from "chips," and not from granulations, consequently no melting-charge is imposed.

2d. Doré silver is always purchased by the London refiners and paid for on chip assay; for the gold, (fine,) 84s. 7½d. per ounce, less 5 grains per pound of 12 ounces; for the silver, the current market rate (now 56¼d.) per ounce, British standard, 925 thousandths, in addition to which 7½d. is allowed on the Doré silver as a partial compensation for the regular deduction of 5 grains per 12 ounces of gold. Thus, if the rate is 56½d. per ounce of silver, 7½d. is added, making it 57½d. per ounce 925 thousandths.

3d. Transit charges: Freight, ½ per cent.; insurance, (Atlantic Mutual,) ½ per cent., nominal, subject to a reduction of ½ per cent. returnable in scrip, (if the company incur no losses,) which reduces the insurance to ¼ per cent., making all outward charges nominally ¾ per cent., or by the above schedule ½ per cent.

To this add ¾ per cent., being the deduction in London by the refiners, and you have a total of 1½ per cent. of charges to which the bullion is subjected.

Very respectfully, for superintendent,

J. M. FLOYD,
Chief Clerk.

HON. H. R. LINDERMAN,
Director of the Mint, Washington, D. C.

SILVER CONTAINING MERCURY.

Some remarks upon the assay of silver containing traces of mercury can hardly fail to be interesting, not only to assayers, but to all who are directly interested in bullion operations. Even if they receive no new facts or ideas they will be glad to make a comparison with their own results. For this reason it is proposed to offer an appendix to the Director's annual report on this subject.

When the admirable process of the humid assay of silver was first brought out, (about 1832,) it was well understood that the presence of mercury formed the only embarrassment. Under the solvents and precipitants of silver, it acted much in the same way, and in the result passed itself off, we may say, as so much silver.

It is true there was and is a ready way of ascertaining the presence of mercury. The precipitated chloride of silver placed in a strong solar light soon blackens; but if the chloride of mercury be present, even in very small quantity, the discoloration is arrested, and the chlorides continue white. We find this to be true even where the mercury does not exceed one-half thousandth, and a more curious fact can hardly be found in chemistry.

We began to use this mode of assay in 1835, soon after its invention and completion by Guy Lussac. It was a long time before we had occasion to notice the inconvenience now under discussion. Most of our coining material consisted of Mexican and South American dollars, which by manipulation had already been freed from any mercury in the original bullion. We had, besides, much in the shape of bars, test-bottoms, and platapina, resulting from amalgamation, but if they contained any trace of mercury it was so small as to receive no attention.

Of late, however, in silver bullion issuing from the Nevada mines, the disagreements between dry and humid assays, and especially the test already named, gave us notice that mercury must be looked for. It is indeed surprising that a metal so volatile should not be utterly driven off by the heat required to melt silver, and yet we have found it to remain after more than one melting. It need hardly be stated that it is present, not naturally but as a residuum from the amalgamating process.

It was not until this summer, when we began to receive large invoices of silver bars containing gold from the Nevada mines, that the dose of mercury became an inevitable circumstance. The bars had been well melted, and yet they contained mercury. They were melted again here, and cast into smaller bars preparatory to parting, and still they contained mercury. How much it was not difficult to ascertain. We had only to compare with the original assays stamped on the bars, and with our own cupel assays, rigidly made, with many proofs of chemically pure silver, to find by the ordinary humid assay a presence of one-half thousandth to three thousandths of mercury—usually one or two. We had thus, also, a satisfactory proof of the care and accuracy observed by the original assayer, both as to contents of gold and silver.

The time was, and that not long ago, that a deviation of two or three thousandths in fineness of silver was of no account, and this was equally true whether of European or American assays. But there has been progress in exactness and close calculation. We report silver to the half-thousandth; we can assay it to the quarter or even to the tenth, or the last trace in fine silver.

Of course this one deficiency in the humid process engaged the attention of the most skillful and inventive assayers. Chandet (Art de l'Essayeur) remarked, "In this case it is absolutely necessary to determine by cupellation, employing a good table of com-

pensation." L'evol, the late eminent assayer of the Paris mint, instituted a method by the use of caustic ammonia, followed by acetic acid, which it is not necessary further to explain, since it was superseded by the further improvement of Guy Lussac, the original inventor. And that was simply to add, after dissolving the metals in nitric acid, ten grams of acetate of soda, in crystals, by which the mercury was held in solution and not thrown down with the silver. (Mitchell's and Crooke's Manual.)

Without detailing the various experiments which have been carefully made here very recently, it is sufficient to say that we find it expedient to add a little free acetic acid to the acetate of soda employed, and then we get a good result. Still, we consider it not quite so reliable or so exclusive of mercury as the oven assay, carefully managed, and tested with proofs of fine silver. We have never used the French tables of compensation in the dry way, nor the tables of correction in the humid way, and in this we are supported by Regnault. They are not so reliable as the fine-silver test, which corrects every kind of error.

It is very well to use both methods, and where the acetate gives a higher result to prefer the expellation. Moreover, these silver bars generally have to be tried for gold as well, and it makes but one course for both to use the oven. Still, where mercury does not occur, the humid way is on every account to be preferred.

There are some other substances occasionally interfering with the humid assay which the books seem to have overlooked; we will therefore briefly notice them. Such are sulphur in the shape of sulphide of silver, sulphide of antimony, and metallic tin. When we received bars from Chili in former years, we were troubled with small quantities of a reddish-brown residuum, which falsified the assay, until it was found that by putting on a stronger dose of acid and boiling, it yielded. This was the native sulphide of silver. The same treatment dissolves the sulphide of antimony. And where there is tin present, which, if there is a little gold, will give a tint of purple of cassins, besides a cloud which perplexes the operator, the use of sulphuric acid with crystals of nitre will make a clear solution.

It is only proper to add that in these, as in other investigations, I am much indebted to those associated with me in the assay department.

W. E. Du BOIS,
Assayer, United States Mint, Philadelphia.

Money statistics.

Years.	Specie—		Total specie in the country.	Authorities.
	In circulation.	In banks.		
	Millions.	Millions.	Millions.	
1790			9	Blodgett.
1792			18	Do.
1794			21½	Do.
1796			16½	Do.
1798			14	Do.
1800			17½	Do.
1802			16½	Do.
1804			17½	Do.
1806			18½	Do.
1811		15½		Gallatin.
1815		17		Do.
1816	7½	19	26½	Do.
1820		19.8		Do.
1830	10	22½	32½	Do.
1836	25	40	65	Congressional reports.
1838	52½	35	87½	Woodbury.
1840	50	33	83	Do.
1842		28.4		Do.
1844	50	50	100	Hunt.
1846	55	42	97	Treasury reports.
1848	66	46	112	Do.
1850	109	45	154	Do.
1852			204	Do.
1854	191	59	250	Do.
1856		59		Do.
1858		74		Do.
1860			275	Do.
1862				Do.
1865		15		Do.
1870		26	130	Do.
1872		*93	140	Do.

* In Treasury and national banks.

In 1791 the first Bank of the United States was established, and continued for twenty years. Its paper was a currency both for the people and the Government. When the

charter of that bank expired the State banks performed the same office. From 1803 to 1819, the Bank of the United States held \$15,300,000 in specie. In 1813 the paper circulation was about \$62,000,000, and gold and silver formed a substantial part of the currency. In 1814 the State banks suspended specie payments, but their paper continued to be currency. In 1815 the circulation was \$110,000,000. In 1816 the last Bank of the United States was established. During the year 1817 and part of 1818, all the surplus products of the country commanded in foreign markets more than ordinary prices. In 1819 the circulation fell to 65,000,000, a reduction in four years of \$45,000,000. In 1811 there were 89 banks in the United States, having a capital of \$53,000,000, and specie in their vaults amounting to \$16,000,000; and on the 1st of January, 1835, there were 558 banks and 146 branches, in all 704, with an aggregate capital of \$232,000,000, and having nearly \$44,000,000 in specie. In 1833-34 the fiscal agency of the Bank of the United States was determined by the Government, the deposits were removed, and a connection was formed with State banks as agents. In 1833 the amount of specie in circulation was \$4,000,000, and the banks held \$25,000,000. The paper circulation was \$80,000,000. In 1836 the specie had risen to \$28,000,000 in circulation, \$45,000,000 held by the banks, and the note circulation \$140,000,000. In 1837 the amount of specie in the country was \$80,000,000, equal to \$5 per head of the population, and the note circulation \$100,000,000. In the same year the specie currency in Europe was estimated at \$1,100,000,000. In May, 1837, (the charter of the Bank of the United States having expired in March, 1836,) the State banks suspended specie payment.

AN ACT to provide for the resumption of specie payments.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Treasury is hereby authorized and required, as rapidly as practicable, to cause to be coined at the mints of the United States, silver coins of the denominations of ten, twenty-five, and fifty cents, of standard value, and to issue them in redemption of an equal number and amount of fractional currency of similar denominations, or, at his discretion, he may issue such silver coins through the mints, the subtreasuries, public depositories, and post-offices of the United States; and, upon such issue, he is hereby authorized and required to redeem an equal amount of such fractional currency, until the whole amount of such fractional currency outstanding shall be redeemed.

SEC. 2. That so much of section three thousand five hundred and twenty-four of the Revised Statutes of the United States as provides for a charge of one-fifth of one per centum for converting standard gold bullion into coin is hereby repealed, and hereafter no charge shall be made for that service.

SEC. 3. That section five thousand one hundred and seventy-seven of the Revised Statutes of the United States, limiting the aggregate amount of circulating-notes of national banking-associations, be, and is hereby, repealed; and each existing banking-association may increase its circulating-notes in accordance with existing law without respect to said aggregate limit; and new banking-associations may be organized in accordance with existing law without respect to said aggregate limit; and the provisions of law for the withdrawal and redistribution of national-bank currency among the several States and Territories are hereby repealed. And whenever, and so often, as circulating-notes shall be issued to any such banking-association, so increasing its capital or circulating-notes, or so newly organized as aforesaid, it shall be the duty of the Secretary of the Treasury to redeem the legal-tender United States notes in excess only of three hundred million of dollars, to the amount of eighty per centum of the sum of national-bank notes so issued to any such banking-association as aforesaid, and to continue such redemption as such circulating-notes are issued until there shall be outstanding the sum of three hundred million dollars of such legal-tender United States notes, and no more. And on and after the first day of January, anno Domini eighteen hundred and seventy-nine, the Secretary of the Treasury shall redeem, in coin, the United States legal-tender notes then outstanding on their presentation for redemption, at the office of the assistant treasurer of the United States in the city of New York, in sums of not less than fifty dollars. And to enable the Secretary of the Treasury to prepare and provide for the redemption in this act authorized or required, he is authorized to use any surplus revenues, from time to time, in the Treasury not otherwise appropriated, and to issue, sell, and dispose of, at not less than par, in coin, either of the descriptions of bonds of the United States described in the act of Congress approved July fourteenth, eighteen hundred and seventy, entitled, "An act to authorize the refunding of the national debt," with like qualities, privileges, and exemptions, to the extent necessary to carry this act into full effect, and to use the proceeds thereof for the purposes aforesaid. And all provisions of law inconsistent with the provisions of this act are hereby repealed.

Approved, January 14, 1875.

UNEXPLORED.

OPHIR SOUTH LINE
CALIFORNIA NORTH LINE

OPHIR 1300 level
INCLINE
from 1300 California
to 1300 at Ophir
CALIFORNIA 1300 level

Magnetic North

*We hereby certify that this is a correct
map of the workings and ore body of the
Consolidated Virginia and California
mines on the 1300 level
Magma City Nevada
August 4 1895*

*J. C. Williams
J. C. Williams*

FREE DRIPE
CON VA 1300 SHAFT
CALIFORNIA SOUTH LINE
CONSOL VIRGINIA NORTH LINE

SE DRIPE 1300
WIND C
from 1300 to 1200
CON VA 1300 level

WALL FROM
1300 to 1400

UNEXPLORED

Scale
0 10 20 30 60 90 120 150 FT

1100 - 1200
1200 - 1300
1300 - 1400
1400 - 1500
1500 - 1600
1600 - 1700
1700 - 1800
1800 - 1900
1900 - 2000
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6800 - 6900
6900 - 7000
7000 - 7100
7100 - 7200
7200 - 7300
7300 - 7400
7400 - 7500
7500 - 7600
7600 - 7700
7700 - 7800
7800 - 7900
7900 - 8000
8000 - 8100
8100 - 8200
8200 - 8300
8300 - 8400
8400 - 8500
8500 - 8600
8600 - 8700
8700 - 8800
8800 - 8900
8900 - 9000
9000 - 9100
9100 - 9200
9200 - 9300
9300 - 9400
9400 - 9500
9500 - 9600
9600 - 9700
9700 - 9800
9800 - 9900
9900 - 10000

UNEXPLORED

ORE

WEST WALL OF

ORE VEIN

1400 STOPE

OPHIR 1300 level

CROSS CUT NO 3 1400
CALIFORNIA 1400 level

CON VA SHAFT
CON VA 1400 level

Magnetic North

*We hereby certify that this is a correct
map of the workings and ore body of the
Consolidated Virginia and California
mines on the 1400 level
Magma City Nevada
August 4 1895*

*J. C. Williams
J. C. Williams*

CALIFORNIA SOUTH LINE
CONSOL VIRGINIA NORTH LINE

Scale
0 10 20 30 60 90 120 150 FT

UNEXPLORED

UNEXPLORED

ORE

ORE

STOPE

ORE

ORE

ORE

ORE

ORE

ORE

STOPE

ORE

East Clay

We hereby certify that this is a correct map of the workings and ore body of the Consolidated Virginia and California Virginia Lignite Mine on the 1550 level
 August 14, 1875 J. E. James
 L. F. Winkler

CALIFORNIA SOUTH LINE
 CON VA NORTH LINE

Scale 0 10 20 30 60 90 120 150 FT

UNEXPLORED



UPPER SOUTH LINE
 CALIFORNIA NORTH LINE

We hereby certify that this is a correct map of the workings and ore body of the Consolidated Virginia and California Virginia Lignite Mine on the 1550 level
 August 14, 1875 J. E. James
 L. F. Winkler

Magnetic North

Surveyed 1875 by James & Winkler

Scale 0 10 20 30 60 90 120 150 FT

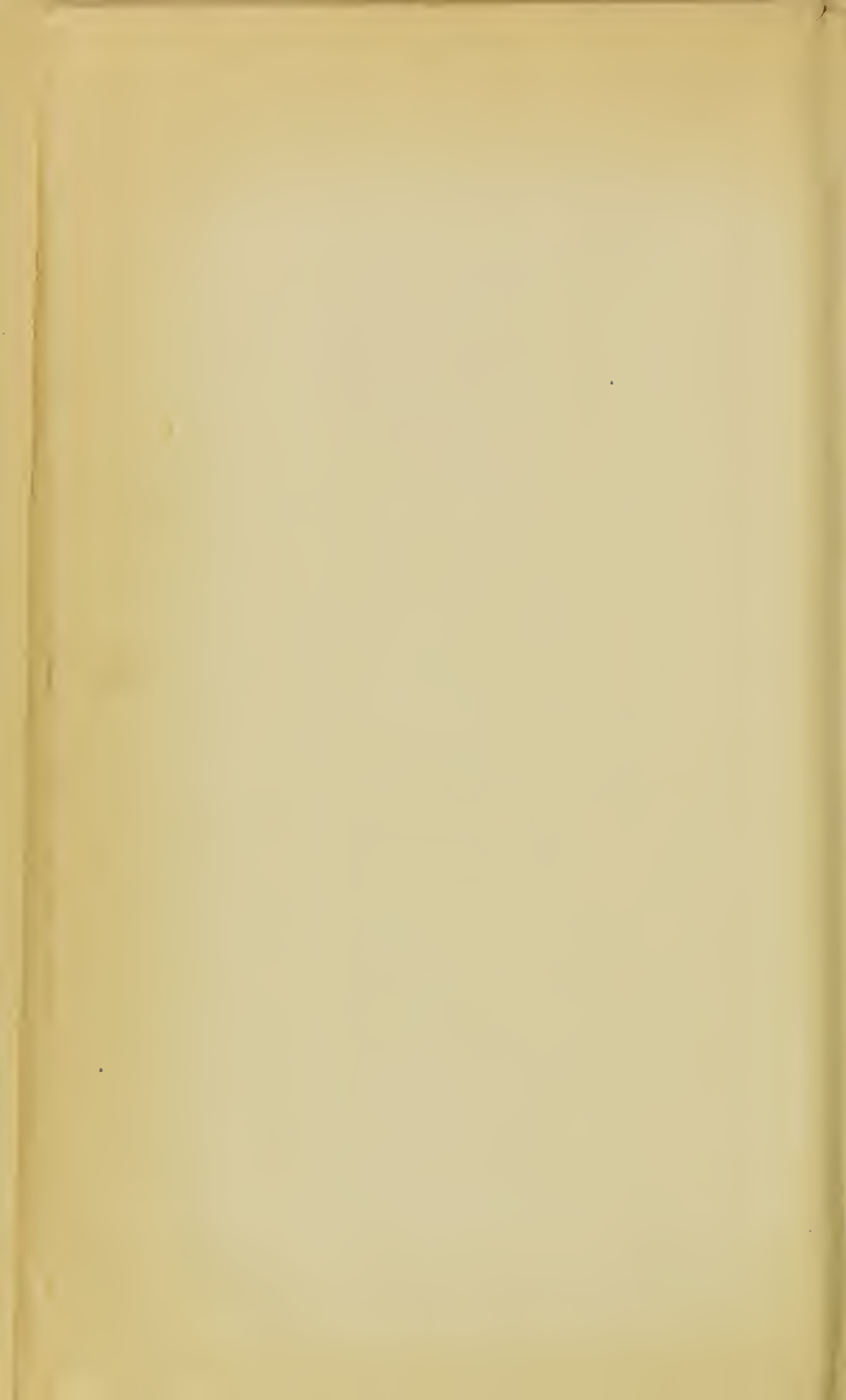


We hereby certify that this is a correct map of the workings and ore body of the Consolidated Virginia and California Virginia Lignite Mine on the 1550 level
 Aug. 26, 1875 J. E. James
 L. F. Winkler

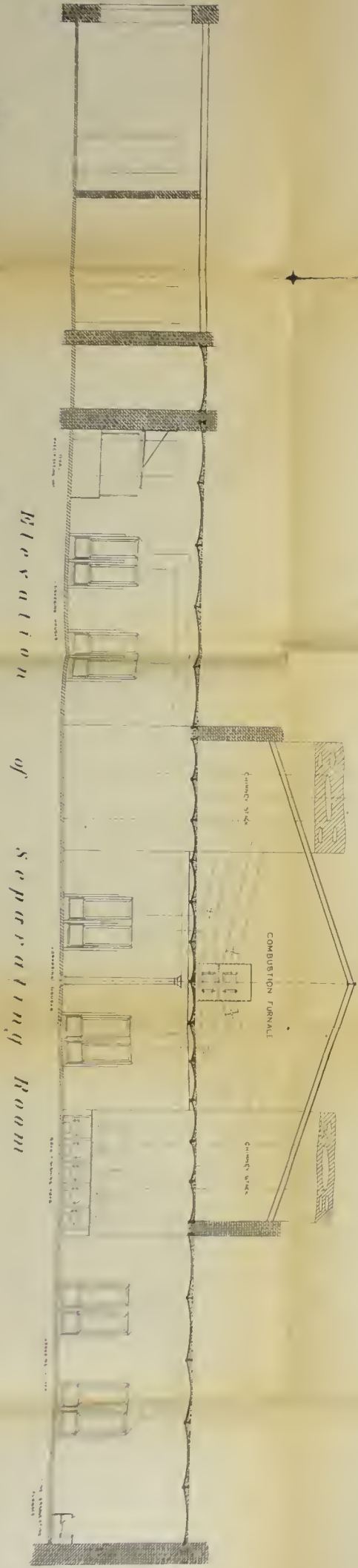
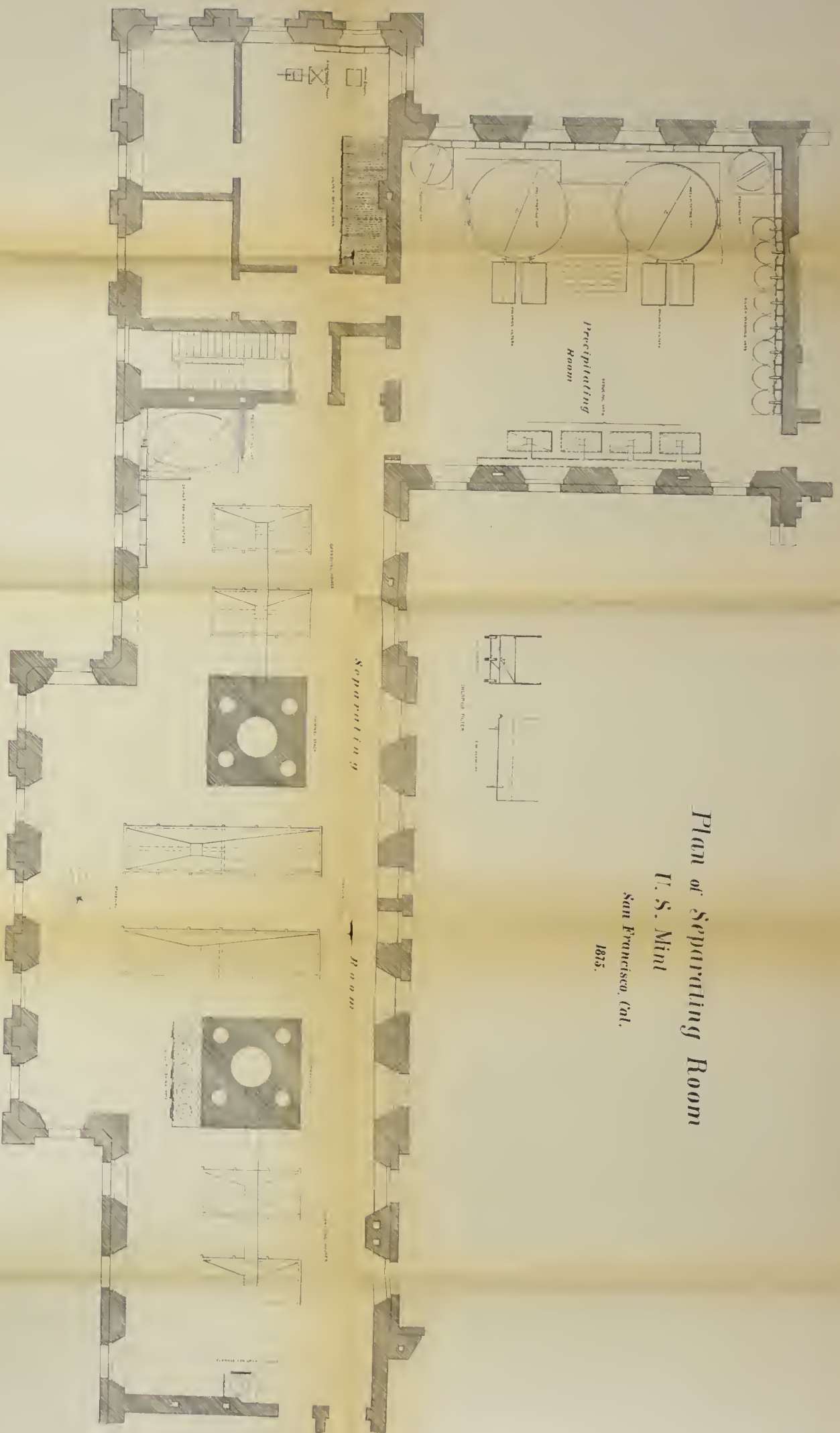
MAGNETIC NORTH

Surveyed 1875 by James & Winkler

Scale 0 10 20 30 60 90 120 150 FT



Plan of Separating Room
U. S. Mint
San Francisco, Cal.
1875.



Elevation of Precipitating Room

